



**BA Group**

# 12489 DIXIE ROAD TOWN OF CALEDON URBAN TRANSPORTATION CONSIDERATIONS

Prepared For: QuadReal Property Group

July 2025







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## 1.0 INTRODUCTION

This Transportation Study has been prepared on behalf of the landowner, bcIMC Realty Corporation c/o QuadReal Property Group (“QuadReal”), in support of a Site Plan Approval (“SPA”) application for the lands municipally described as 12489 Dixie Road, in the Town of Caledon (the “Site”).

QuadReal intends to redevelop the Subject Property into a leading Class ‘A’ last-mile urban distribution and logistics facility (the “Proposed Development”). This report is provided in support of an Official Plan Amendment, Zoning By-Law Amendment, and Site Plan Application to permit the development of a three-building warehouse with associated ancillary office uses.

The Proposed Development consists of three industrial buildings with a total gross floor area of 134,565 square metres.

The Subject Property is located on the east side of Dixie Road, south of Old School Road and north of Mayfield Road and is used mainly as agricultural land. The Subject Property is bounded by adjacent parcels to the north, east, and south, and Dixie Road to the west. A variety of retail, commercial, restaurant and automotive uses are located along the south side of Mayfield Road and a residential subdivision comprised primarily of one- and two-storey single detached dwellings are located east of Dixie Road. Additionally, surrounding the Mayfield Road and Bramalea Road area to the east of the Site are retail and institutional buildings. The Subject Property is approximately 581,318 square metres (144 acres) in size with approximately 393 metres of frontage along Dixie Road.

## 1.1 THE SITE

As outlined in **Section 1.0**, the Site is located on the east side of Dixie Road, south of Old School Road and north of Mayfield Road. The Site is bounded by adjacent development parcels to the north and east, and south, and Dixie Road to the west. A small, independent property with frontage on to Dixie Road, is surrounded by the Site on its other three sides. The property is not owned by QuadReal and currently operates as an existing residential property.

Existing vehicular access to consists of two unsignalized driveways to Dixie Road, located in the southeast and south areas of the Site, that are currently operating with all moves permitted. The Site location is shown in **Figure 1**.

## 1.2 THE PROPOSED DEVELOPMENT

The Proposed Development contemplates the demolition of the existing infrastructure on the Site and the construction of three new industrial buildings. The Proposed Development is being built speculatively and is intended to serve a variety of warehousing uses, including general warehousing, fulfilment centre warehousing, and other light industrial/commercial uses. The Proposed Development consists of three industrial buildings approximately sized at 44,395 square metres, 49,269 square metres and 42,912 square metres with a combined floor area of approximately 136,576 square metres. Each building includes vehicle parking, truck loading docks, and in some cases, tractor-trailer parking spaces. A total of 1,606 car parking spaces are proposed across the Site, located at grade.

The expected occupancy of the buildings is 2028.

The western side of the property along Dixie Road plans for two vehicular access points, also presented in **Figure 2**, and a functional design plan is attached in **Appendix C**:

- Site Access 1: The northernmost access along Dixie Road, is proposed to operate under signalized control and under full moves access. Site Access 1 would align with the Tribal Lands portion of the 12892 Dixie Road development (12892 Dixie Road south signal access) on the opposite side of Dixie Road.
- Site Access 2: Approximately 395 metres south of Site Access 1, proposed to operate as a right-in / right-out driveway.

The Site plan is shown in **Figure 2** and a reduced copy of the architectural plans (not to scale) are attached in **Appendix A**.

P:\78\43\21\Graphics\12489 Dixie Road (South)\Adobe\Ds\7843-21\_12489 Dixie Road\_July 2025.indd



Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 1 SITE LOCATION**



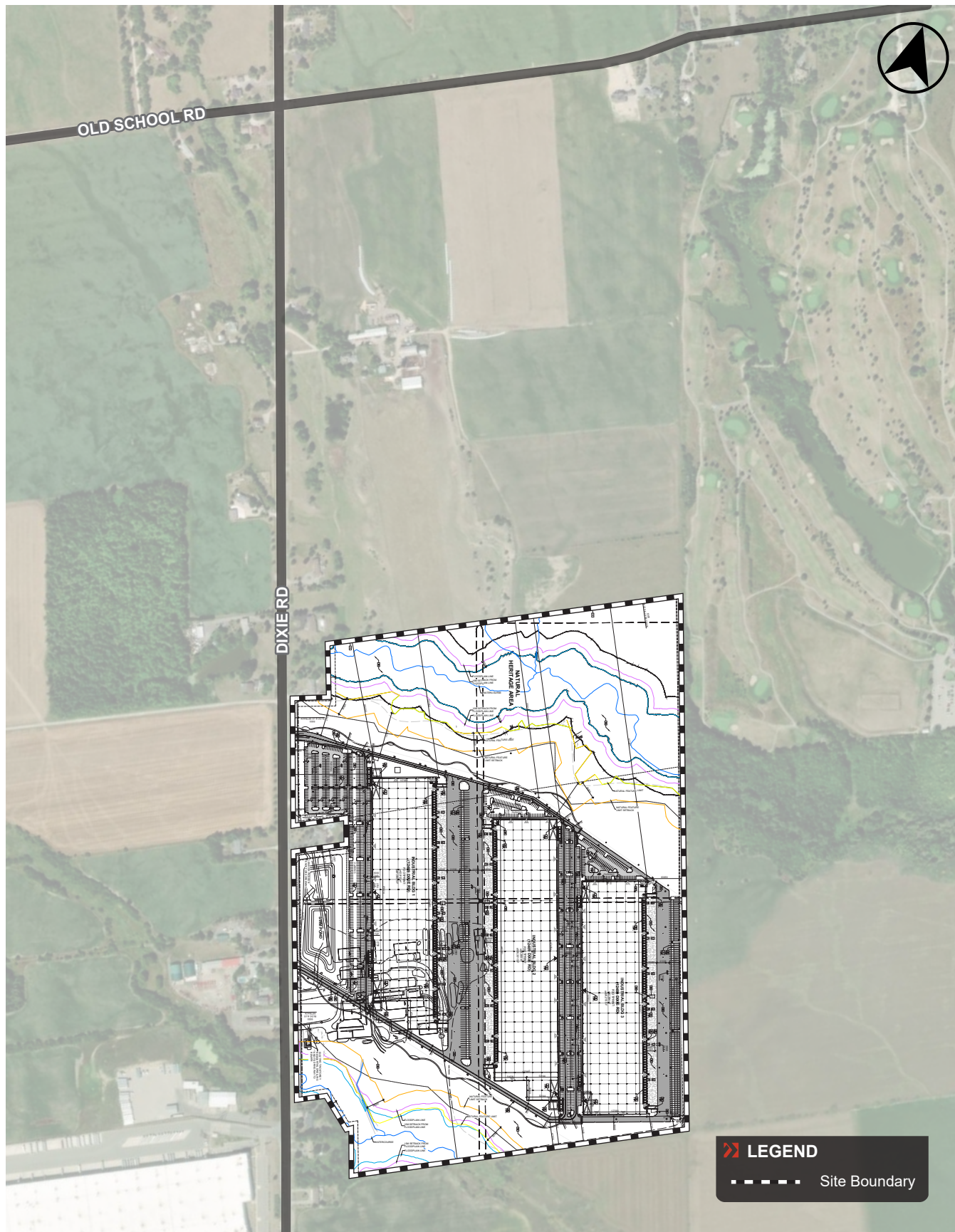


FIGURE 2 SITE PLAN

## 2.0 TRANSPORTATION CONTEXT

### 2.1 EXISTING ROAD NETWORK

A brief description of the roads in the vicinity of the Site follows. Existing lane configurations and road network classifications in the vicinity of the Site are shown in **Figure 3** and **Figure 4** respectively.

#### 2.1.1 Dixie Road

Dixie Road is an arterial road in the vicinity of the Site, operated by the Region of Peel. Dixie Road is generally aligned in a north-south direction with a two-lane cross-section (one lane per direction) and extends from Olde Base Line Road to Lakeshore Road East within Mississauga. The portion of Dixie Road north of Mayfield Road adjacent to the Site is classified as a Suburban Connector as per the 2013 Peel Region Road Characterization Study.

A posted speed limit of 80 kilometres per hour is in effect in the vicinity of the Site.

The Dixie Road / Mayfield Road intersection is signalized. Localized widening allows for the provision of dedicated left turn lanes and right turn slip lanes on each approach.

#### 2.1.2 Old School Road

Old School Road is a local collector road in the vicinity of the Site, operated by the Town of Caledon. Old School Road is generally aligned in an east-west direction with a two-lane cross-section (one lane per direction) and extends from Winston Churchill Boulevard within Mississauga to Airport Road within Caledon.

A posted speed limit of 60 kilometres per hour is in effect in the vicinity of the Site.

The Dixie Road / Old School Road intersection is signalized. Future widening is proposed to allow for the provision of dedicated left turn lanes and right turn slip lanes on each approach.

#### 2.1.3 Mayfield Road

Mayfield Road is an arterial road in the vicinity of the Site, operated by the Region of Peel. Mayfield Road is generally aligned in an east-west direction with a six-lane cross-section (three lanes per direction) west of Dixie Road until approximately 275 metres west of Heart Lake Road, and a five-lane cross-section (three lanes eastbound, 2 lanes westbound) between Dixie Road and Bramalea Road. It extends from Winston Churchill Boulevard to Highway 50. The portion of Mayfield East of Dixie Road adjacent to the Site is classified as an Industrial Connector as per the 2013 Peel Region Road Characterization Study.

A sidewalk is provided along the south side of Mayfield Road.

A posted speed limit of 80 kilometres per hour is in effect in the vicinity of the Site. The Mayfield Road / Dixie Road intersection is signalized. Localized widening allows for the provision of dedicated left turn lanes and right turn slip lanes on each approach.

### 2.1.4 Bramalea Road

Bramalea Road is a collector road operated by the Town of Caledon. Bramalea Road is generally aligned in a north-south direction and operates with a four-lane cross-section (two lanes per direction) within the study area. Bramalea Road extends from Olde Base Line Road to Derry Road East within Mississauga.

A posted speed limit of 60 kilometres per hour is in effect along Bramalea Road in the vicinity of the Site.

### 2.1.5 Abbotside Way

Abbotside Way is a local road operated by the Town of Caledon. The roadway operates with a two-lane cross-section (one lane per direction) and is assumed to operate with an unposted speed limit of 50 kilometres per hour.

## 2.2 EXISTING TRANSIT NETWORK

Two bus services operate within 1 kilometre of the Site, as outlined in the following sections. The existing transit network in the vicinity of the Site is shown in **Figure 5**.

### 2.2.1 15 Bramalea

The 15 Bramalea bus route operates between the Smart Centres - Walmart Plaza near the Mayfield Road / Bramalea Road intersection and Telford Way at Tranmere Drive, generally in a north-south direction. The route operates at intervals of 10 minutes during the AM and PM peak hours. The nearest stop is located south of the Mayfield Road / Bramalea Road intersection, approximately 1 kilometre to the east of the Site.

### 2.2.2 18 Dixie

The 18 Dixie bus route operates between Meyerside Drive and Inspire Boulevard along Dixie Road, generally in a north-south direction. The route operates at intervals of 10 minutes during the AM and PM peak hours. The nearest stop is located at the Inspire Boulevard / Dixie Road intersection, approximately 750 metres to the south of the Site.

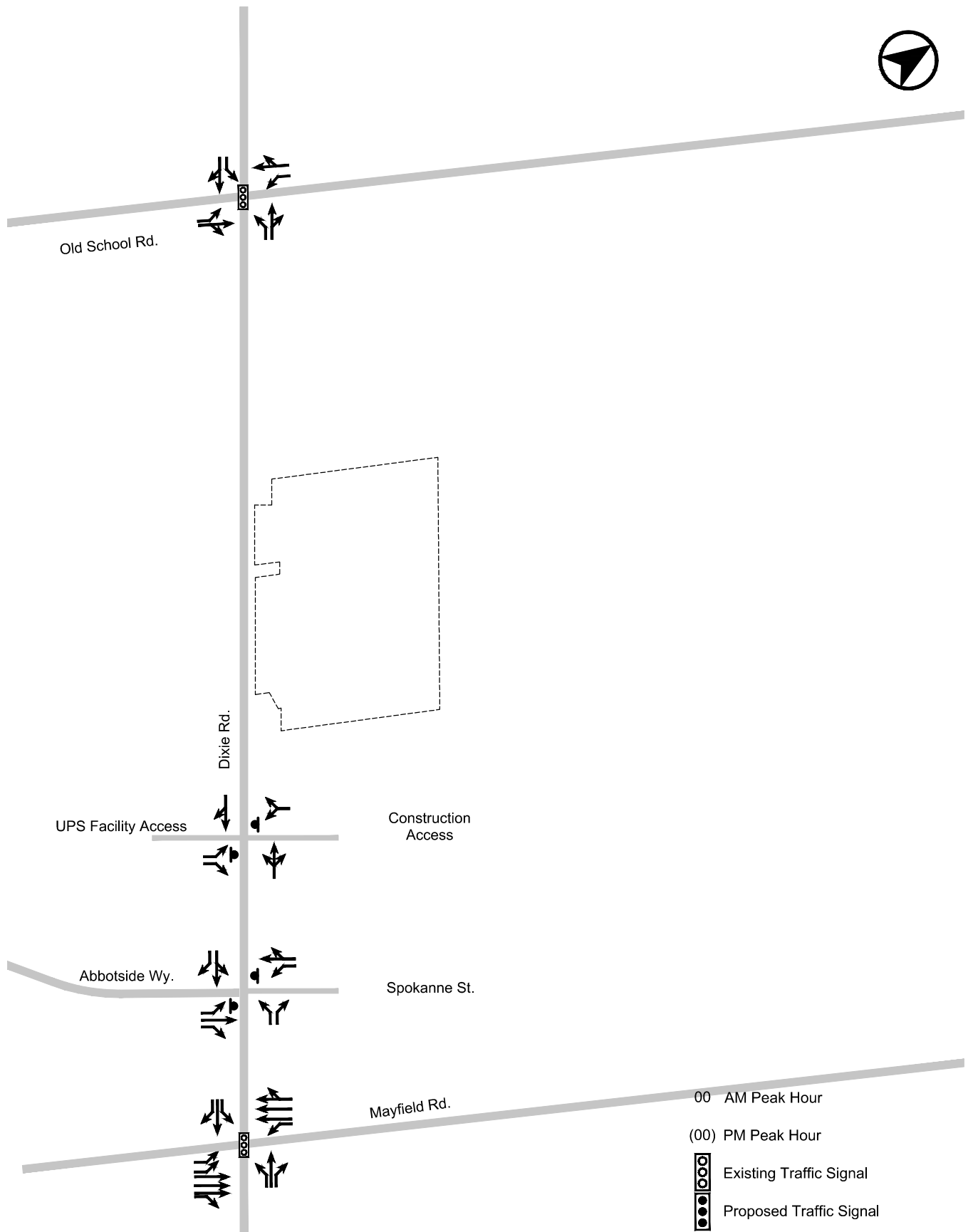
## 2.3 EXISTING BICYCLE NETWORK

Existing bicycle infrastructure near the Site includes a multi-use path located along the south side of Mayfield Road, which subsequently provides connections to the wider bicycle network within the City of Brampton. The Active transportation network context in the vicinity of the Site is shown in **Figure 6**.

## 2.4 EXISTING PEDESTRIAN NETWORK

Due to the agricultural uses of surrounding lands, there is an absence of sidewalks in the area immediately surrounding the Site. A sidewalk is provided along the south side of Mayfield Road to facilitate residential uses. Despite the minimal pedestrian infrastructure, crosswalks are available at the signalized intersections of

Dixie Road / Mayfield Road, Dixie Road / Old School Road, and Bramalea Road / Mayfield Road. The Active transportation network context in the vicinity of the Site is shown in **Figure 6**. Additionally, a pedestrian site circulation plan has been provided within **Appendix D**.



**FIGURE 3 EXISTING LANE CONFIGURATION AND TRAFFIC CONTROL**

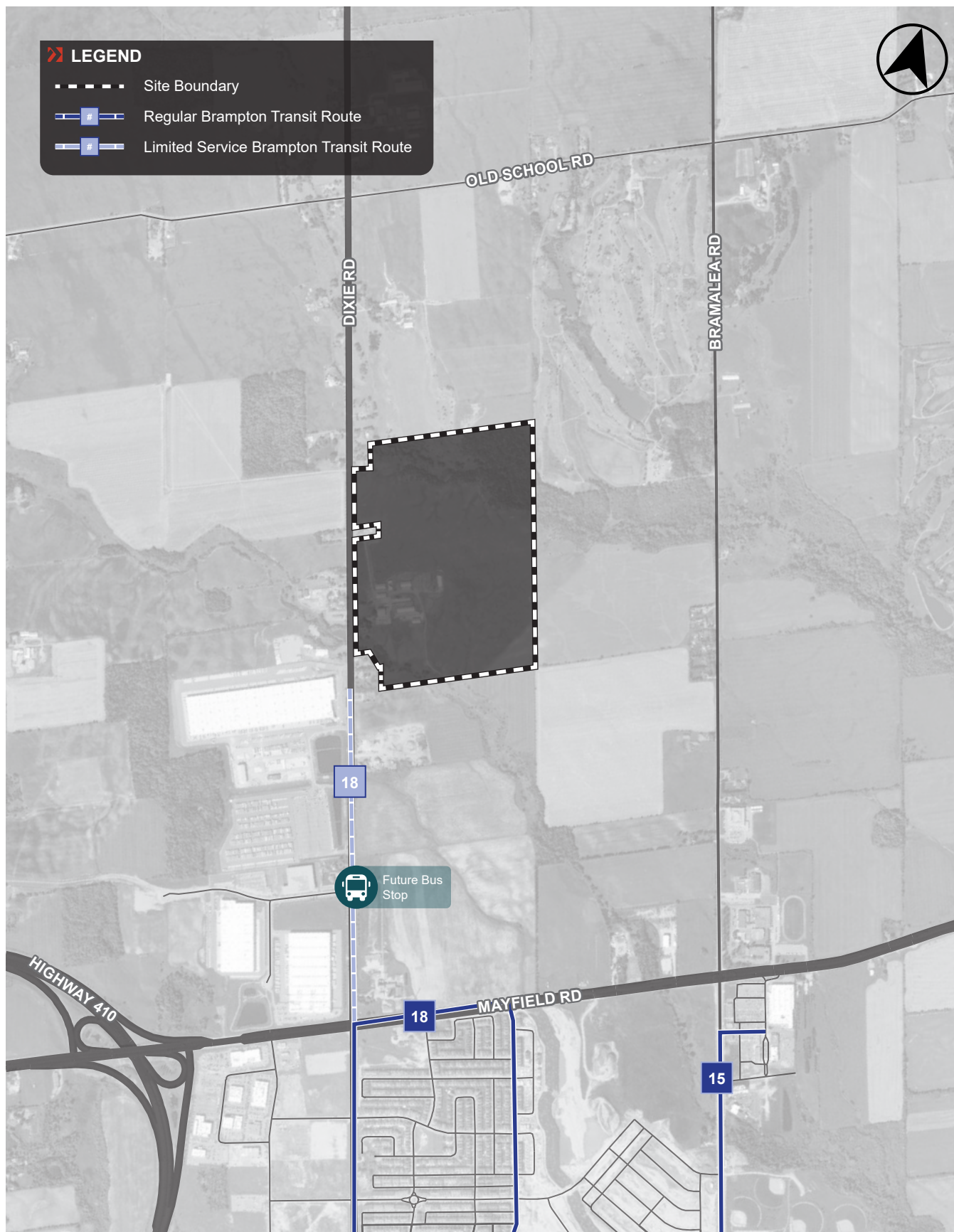




**FIGURE 4 EXISTING STREET NETWORK**



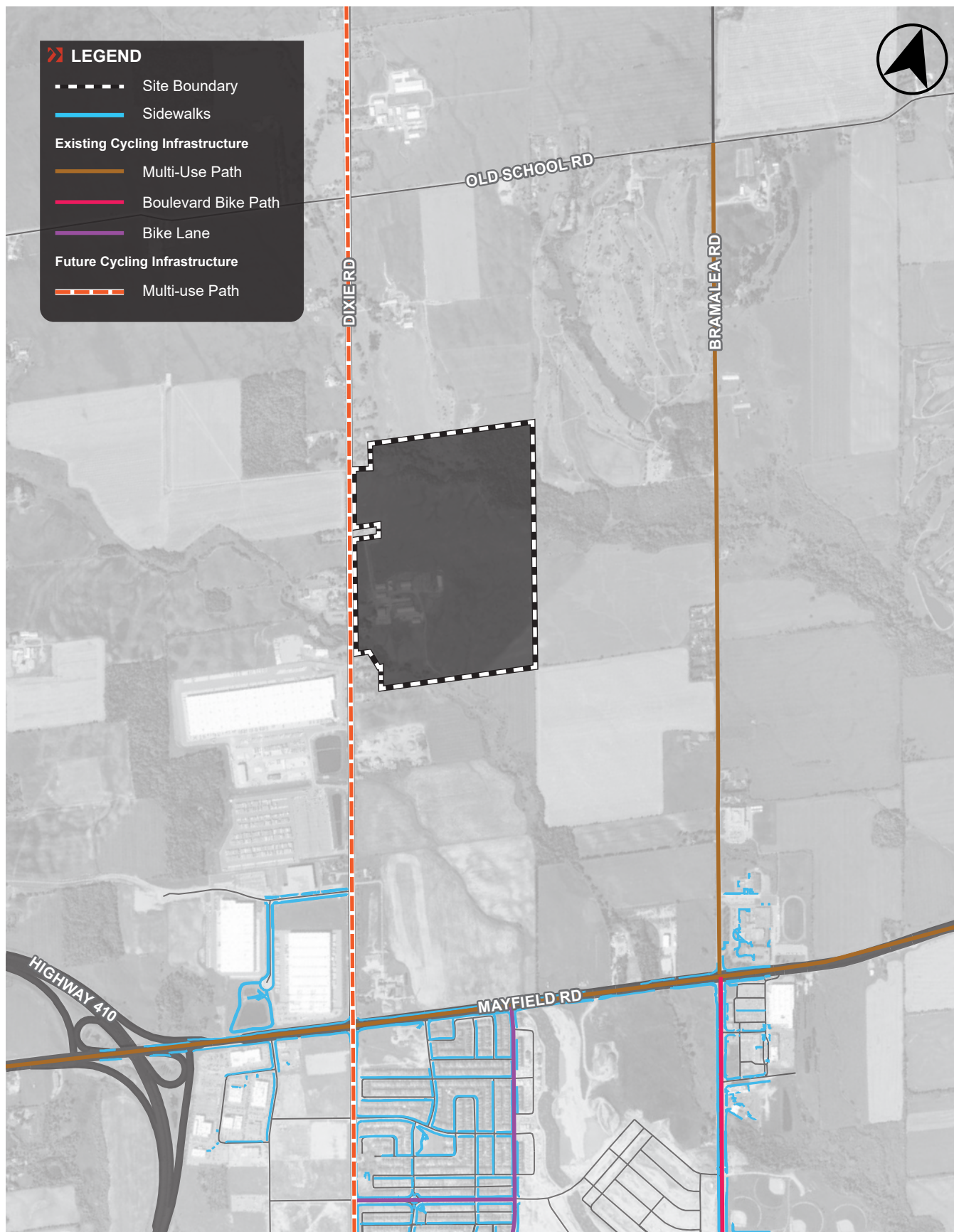
P:\78\43\21\Graphics\12489 Dixie Road (South)\Adobe\Ds\7843-21\_12489 Dixie Road\_july 2025.indd



**FIGURE 5 EXISTING AND FUTURE TRANSIT NETWORK**



P:\78\43\21\Graphics\12489 Dixie Road (South)\Adobe\Ds\7843-21\_12489 Dixie Road\_july 2025.indd



Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 6 ACTIVE TRANSPORTATION CONTEXT**

## 2.5 FUTURE INFRASTRUCTURE PROJECTS

### 2.5.1 Dixie Road Widening

The Region of Peel Environmental Study Report prepared by AECOM, dated August 2011 (herein referred to as the “ESR”) evaluates the need and feasibility of a widening and improvements on Dixie Road from Queen Street to two kilometres north of Mayfield Road, to help address the short- and long-term needs related to future planned growth, operational and service deficiencies, road and intersection geometrics, road link capacity, and storm drainage deficiencies.

The ESR includes a list of improvements that will begin construction ranging from Spring 2022 to 2027. The ESR recommends that Dixie Road is widened to 6 through lanes plus turning lanes from north of Queen Street to Countryside Drive and 4 through lanes plus turning lanes north of Countryside Drive to approximately two kilometres north of Mayfield Road. Construction for the Dixie Road widening was planned to start in the summer of 2023. Additionally, the ESR states that multi-use trails will be installed along Dixie Road, along with improvements in landscaping, streetscaping, traffic signals, and lighting.

Near the vicinity of the Site, north of Mayfield Road, Dixie Road is planned to be widened to four lanes, plus a centre turning lane, as part of an approved project by the Region of Peel in February 2011 (resolution 2011-38). The west side of Dixie Road will contain a multi-use path for pedestrians and cyclists. The intersection of Dixie Road and Mayfield Road will be configured to include channelized rights on all four legs, in addition to dual-left auxiliary lanes at the south, east, and west legs.

### 2.5.2 Mayfield Road Widening

The Region of Peel Long Range Transportation Plan (2019) was reviewed to identify any planned roadway improvements within the study area. It was identified that Mayfield Road is to be widened to 6 through lanes from Dixie Road to Bramalea Road plus turning lanes, to help address the short- and long-term needs related to future planned growth, operational and service deficiencies, and road link capacity. Construction for the Mayfield Road widening is planned to start in 2025.

The Region of Peel has additionally completed a Schedule “C” Environmental Assessment for the improvements to Mayfield Road from Heart Lake Road to Airport Road. The Environmental Study Report was published in May 2004. The need for improvements and additional roadway capacity in the Mayfield Road corridor had been previously identified in earlier studies, including the “*Mayfield Road Environmental Assessment and Preliminary Design Study (Hurontario to Heart Lake Road)*” and the Region of Peel Official Plan. The ESR identifies lands to be protected for an ultimate 6-lane cross-section between Hurontario Street and Heart Lake Road.

Within the Vicinity of the Site, Mayfield Road is planned to be widened to 3 through lanes plus turning lanes in each direction. The intersection of Dixie Road and Mayfield Road will be configured to include channelized rights on all four legs, in addition to dual-left auxiliary lanes at the south, east, and west legs.

## 3.0 CAR PARKING CONSIDERATIONS

### 3.1 CAR PARKING STANDARDS

#### 3.1.1 Town of Caledon Zoning By-law 2006-50

The Site is subject to the car parking requirements of the Town of Caledon Zoning By-Law 2006-50. The parking requirements for the development are summarized in **Table 1**.

**TABLE 1 TOWN OF CALEDON ZONING BY-LAW 2006-50**

| Use                    | GFA                    | Rate                                                                                                                                                             | Number of Parking Spaces |
|------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Warehouse (Building 1) | 42,912 m <sup>2</sup>  | <i>Over 20,000 m<sup>2</sup> – 168 parking spaces, plus 1 parking space per 170 m<sup>2</sup> of net floor area or portion thereof over 20,000 m<sup>2</sup></i> | 329                      |
| Warehouse (Building 2) | 49,269 m <sup>2</sup>  |                                                                                                                                                                  | 370                      |
| Warehouse (Building 3) | 44,395 m <sup>2</sup>  |                                                                                                                                                                  | 333                      |
| <b>Total</b>           | 136,576 m <sup>2</sup> |                                                                                                                                                                  | 1,032                    |

Notes:

1. Building 1 office area: 879 m<sup>2</sup>
2. Building 2 office area: 876 m<sup>2</sup>
3. Building 3 office area: 879 m<sup>2</sup>

Based on the foregoing, under the Town of Caledon Zoning By-Law 2006-50, the development has a requirement to provide a total of 1,032 car spaces.

### 3.2 PROPOSED CAR PARKING PROVISION

A total of 1,611 car spaces are proposed, which exceeds the requirements and is therefore considered to be satisfactory.

### **3.3 ACCESSIBLE CAR PARKING**

#### **3.3.1 Accessible Car Parking Standards**

##### **3.3.1.1 Town of Caledon By-law 2015-058**

Town of Caledon By-Law 2015-058, Schedule “K” outlines accessible car parking standards based on the total car parking supply, with the following standards relevant to the Proposed Development:

*(8) Under section 80.36 of the Integrated Accessibility Standards Regulation, the minimum number of designated accessible parking spaces shall be provided in accordance with the following: Eleven parking spaces for the use of persons with disabilities and an additional one percent of parking spaces for the use of persons with disabilities, where there are more than 1,000 parking spaces.*

*(9) Where an even number of accessible parking spaces are required, an equal number of Type A and B accessible parking spaces shall be provided. Where an odd number of accessible parking spaces are required, an equal number of Type A and B accessible parking spaces shall be provided but the last accessible parking space may be Type B.*

Application of the above rates to the proposed supply of 830 car spaces equates to a requirement to provide 27 accessible spaces, of which 13 should be Type A accessible spaces and 14 should be Type B accessible spaces.

#### **3.3.2 Proposed Accessible Car Parking Provision**

A total of 40 accessible spaces are proposed (including 20 Type A spaces and 20 Type B spaces), which meets the requirements of the Town of Caledon By-Law 2015-058 as outlined above.



## 4.0 BICYCLE PARKING CONSIDERATIONS

The Town of Caledon Zoning By-Law 2006-50 does not list any bicycle parking requirements for industrial or warehouse uses. Notwithstanding, 48 bicycle spaces have been provided adjacent to the locations of the office buildings within the site.

## 5.0 LOADING CONSIDERATIONS

### 5.1 LOADING STANDARDS

#### 5.1.1 Town of Caledon Zoning By-Law 2006-50

The Town of Caledon Zoning By-Law 2006-50 loading requirements are applied to the Proposed Development in **Table 2**.

**TABLE 2 TOWN OF CALEDON ZONING BY-LAW 2006-50**

| Use                    | GFA                   | Rate                                                                                                                                                                               | Number of Loading Spaces |
|------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Warehouse (Building 1) | 42,912 m <sup>2</sup> | <b>7,441 m<sup>2</sup> or greater:</b><br><br>3 loading spaces plus 1 additional loading space for each 9,300 m <sup>2</sup> GFA or part thereof in excess of 7,441 m <sup>2</sup> | 7                        |
| Warehouse (Building 2) | 49,269 m <sup>2</sup> |                                                                                                                                                                                    | 8                        |
| Warehouse (Building 3) | 44,395 m <sup>2</sup> |                                                                                                                                                                                    | 7                        |
| Total                  |                       |                                                                                                                                                                                    | 22                       |

Application of the Town of Caledon Zoning By-Law 2006-50 loading standards to the Proposed Development results in a minimum requirement of 22 loading spaces.

Loading spaces are required to be a minimum of 3.5 metres wide by 14 metres long, with a vertical clearance of 3.35 metres.

### 5.2 PROPOSED LOADING PROVISION

A total of 249 potential loading docks and two drive-in doors are proposed at one end of each building. The proposed potential loading supply exceeds the requirements of the Town of Caledon Zoning By-Law 2006-50. Given the proposed warehouse land use, the potential loading supply will be determined in part by the needs of future tenants. The proposed loading docks also exceed the dimensional requirements of the Town of Caledon Zoning By-Law 2006-50.

As noted previously, the potential loading spaces indicated on the Site Plan represent opportunities to provide direct access loading bays. The total number of loading docks and their specific locations will be determined in conjunction with the needs of the tenants, which will vary. The Site Plan illustrates the maximum potential number of spaces available to tenants, with the specific supply likely to vary over time, while consistently complying with the by-law minimum requirement.

Vehicle maneuvering diagrams have been provided within **Appendix E**.

## 6.0 SITE PLAN CONSIDERATIONS

### 6.1 SITE ACCESS

As mentioned in **Section 1.2**, vehicular access is proposed via two access points along Dixie Road.

The northwest side of the property along Dixie Road proposes an all-moves traffic signal opposite the 12892 Dixie Road property. A summary of the Site access points is provided in **Table 3**.

**TABLE 3 SITE ACCESS SUMMARY**

| Site Access           | Road Intersection                                | Configuration        | Signalization |
|-----------------------|--------------------------------------------------|----------------------|---------------|
| Site Access 1 (South) | Dixie Road / Site Access 1 / UPS Access Facility | Right-In / Right-Out | No            |
| Site Access 2 (North) | Dixie Road / Site Access 2                       | Full-Moves           | Yes           |

The proposed Site access points and spacing between each conform with the requirements laid out in the 2013 Peel Region Road Characterization Study (RCS) for a Suburban Connector (Dixie Road). As there are no consecutive full-move accesses along Dixie Road (the intersections alternate between full-moves and right-in / right-out), the required intersection spacing between each access is 75 metres as per the RCS. Therefore, the intersection spacing meets the requirements set out within the RCS.

### 6.2 SIGHT LINE ANALYSIS

Vehicular sight lines for the proposed site accesses were reviewed. The critical movements were reviewed for a design speed of 70km/hr for Old School Road and 80km/hr for Dixie Road. Sight line requirements for the site accesses are satisfied. The relevant figures are attached in **Appendix B**.

### 6.3 TRUCK ACCESS

Heavy vehicles are expected to enter and exit the Site via both site access points.

The locations of the light vehicle parking spaces have been strategically laid out throughout the Site area, as can be observed in **Figure 2**, to minimise the potential for conflict between light and heavy vehicles. Light vehicles should be capable of accessing the parking lots for their respective buildings without the need to cross through the loading bay areas. Similarly, heavy vehicles may access the loading bays for their respective buildings without traversing through the designated light vehicle parking areas.

## 7.0 TRAFFIC VOLUME FORECASTING

The following section outlines the traffic volume forecasting scope of work as discussed and agreed upon with the Town of Caledon and the Region of Peel.

### 7.1 EXISTING TRAFFIC VOLUMES

Traffic analysis has been completed for the following scenarios during the AM and PM peak hour periods:

- Existing Traffic Conditions;
- Future Background Conditions at occupancy (2028);
- Future Total Conditions at occupancy (2028);
- Future Background Conditions at 5 years post occupancy (2033); and
- Future Total Conditions at 5 years post occupancy (2033).

### 7.2 EXISTING TRAFFIC CONDITIONS

Existing traffic volumes for vehicles, cyclists and pedestrians were established for the weekday morning and afternoon peak hour periods on the area street network based on intersection traffic information collected by the Town of Caledon and Spectrum Traffic Data Inc. on behalf of BA Group. The turning movement count dates and sources are summarized in **Table 4**.

The raw turning movement counts are attached in **Appendix F**.

**TABLE 4 EXISTING TRAFFIC COUNT INFORMATION**

| Intersection                                                | Date of Count        | Source                                                                           |
|-------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------|
| Dixie Road / Mayfield Road                                  | November 14,<br>2023 | <b>Spectrum Traffic Inc.</b><br>6:30 a.m. to 9:30 a.m.<br>4:00 p.m. to 7:00 p.m. |
| Dixie Road / Abbotside Way / Spokane St                     |                      |                                                                                  |
| Dixie Road / UPS Facility /<br>Existing Construction Access |                      |                                                                                  |
| Dixie Road / Old School Road                                |                      |                                                                                  |
| Bramalea Road / Old School Road                             |                      |                                                                                  |

The existing turning movement counts were reviewed in detail to ensure general consistency in the traffic volumes on roadways between intersections. Where necessary, minor adjustments were made to balance traffic volumes between intersections to create a representative traffic volume base for the traffic operations analyses undertaken as part of this study. Existing traffic volumes are shown in **Figure 8**.



## 7.3 FUTURE BACKGROUND TRAFFIC VOLUMES

### 7.3.1 Background Development Growth

Future development traffic allowances in the 2028 and 2033 horizon years were made for proposed developments in the vicinity of the Site, as summarized in **Table 5**. Overall, proposed background developments include the order of 636,377 square meters of mixed-use development. As the phasing plans of the background developments are currently unknown, all developments are conservatively assumed to have the build-out year of 2028 along with the Site.

The locations of the assumed background developments are illustrated in **Figure 7**.

**TABLE 5 AREA BACKGROUND DEVELOPMENT**

|                                                                      | Development Description                     | Traffic Study      |
|----------------------------------------------------------------------|---------------------------------------------|--------------------|
| 12892 Dixie Road (Tribal Lands)                                      | 83,038 m <sup>2</sup> industrial use        | LEA, 2025          |
| 12861 Dixie Road (Tribal Lands)                                      | 188,718 m <sup>2</sup> industrial use       | BA Group, 2025     |
| 12173 Dixie Road (Tribal Lands)                                      | 190,824 m <sup>2</sup> industrial use       | BA Group, 2023     |
| 12892 Dixie Road (Amazon Distribution Centre)                        | 173,797 m <sup>2</sup> industrial use       | LEA, 2021          |
| 12434 Dixie Road                                                     | Truck Trailer Parking Facility              | Nextrans, 2021     |
| Parts of Lots 18,19,20 (NW Quadrant of Mayfield Road and Dixie Road) | --                                          | No Study Available |
| <b>Total</b>                                                         | <b>636,377 m<sup>2</sup> industrial use</b> |                    |

P:\78\43\21\Graphics\12489 Dixie Road (South)\Adobe\Ds\7843-21\_12489 Dixie Road\_july 2025.indd



Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

FIGURE 8 AREA BACKGROUND DEVELOPMENTS

### 7.3.2 Corridor Growth

To conservatively capture development progress outside of the study area for the horizon years of 2028 (occupancy), and 2033 (10 years post occupancy) the following growth rates were applied during both weekday morning and afternoon peak hours.

- Mayfield Road (2023 to 2033): 2.0% annual growth rate (Region's Traffic Model)
- Old School Road (2023 to 2033): 2.0% annual growth rate (Region's Traffic Model)

In addition to the region's model, the volumes generated by the background developments listed in **Table 5** were assumed to represent growth volumes along Dixie Road, as agreed upon within discussions with the Region of Peel. The background developments outlined within **Table 5** and their subsequent volumes encompass all of the property along Dixie Road, north of Mayfield Road, that is scheduled to be redeveloped. The changes to the area's land use planning do not extend north of Old School road, and therefore there is no anticipated development further up the corridor that would drive any additional traffic growth that is not represented within the listed background developments.

### 7.3.3 Removal of Existing Traffic

Traffic generated by the existing construction site at 12173 Dixie Road has been removed in all future scenarios as it is expected to be replaced by the traffic generated by the future development at 12173 Dixie Road. The total volumes removed are summarized in **Table 6**.

No traffic has been removed from the 12489 Dixie Road (the site) development.

**TABLE 6 SUMMARY OF REMOVAL OF EXISTING TRAFFIC**

|                                      | AM Peak Hour |           |           | PM Peak Hour |          |          |
|--------------------------------------|--------------|-----------|-----------|--------------|----------|----------|
|                                      | In           | Out       | 2-Way     | In           | Out      | 2-Way    |
| Construction Site (12173 Dixie Road) | 0            | 85        | 85        | 0            | 0        | 0        |
| <b>Total Traffic (To be Removed)</b> | <b>0</b>     | <b>85</b> | <b>85</b> | <b>0</b>     | <b>0</b> | <b>0</b> |

Notes:

1. Based on existing traffic surveys conducted on November 14<sup>th</sup>, 2023. All trucks turn south on Dixie Road from site access.

### 7.3.4 Future Background Traffic Volumes

Future background traffic volumes are determined by adding existing traffic volumes and background traffic volumes, for the horizon years of 2028 and 2033, and are shown in **Figure 9** and **Figure 10** respectively.

## 7.4 SITE TRAFFIC VOLUMES

### 7.4.1 Vehicle Trip Generation Data

As discussed in **Section 1.2**, the Proposed Development is speculative and could potentially serve a variety of warehousing uses, including general warehousing, fulfillment centre warehousing, and other light industrial/commercial uses. Vehicular trip generation associated with such uses can vary depending on several factors, such as staff density, operating hours, shift composition and timing, and the frequency of visitors to the Site.

To this end, trip generation rates for a variety of warehousing uses have been collected based on rates outlined in the ITE 11<sup>th</sup> Edition + Supplement and proxy data collected by BA Group and are summarized in **Table 7**.

**TABLE 7 INDUSTRIAL FACILITY TRIP GENERATION**

| Location / Use                                                       | Time Period / Parameter     | AM Peak Hour |      |       | PM Peak Hour |      |       |      |
|----------------------------------------------------------------------|-----------------------------|--------------|------|-------|--------------|------|-------|------|
|                                                                      |                             | In           | Out  | 2-Way | In           | Out  | 2-Way |      |
| Comparison Facilities– Trip Rates (Trips / 100 m² GFA)               |                             |              |      |       |              |      |       |      |
| ITE LUC 150 – Warehousing<br>Average Rates                           | --                          | Trip Rate    | 0.14 | 0.04  | 0.18         | 0.05 | 0.14  | 0.19 |
|                                                                      |                             | HV%          | 8%   | 24%   | 12%          | 31%  | 11%   | 17%  |
| ITE LUC 150 – Warehousing<br>Fitted Curve Equation Rates¹            | --                          | Trip Rate    | 0.15 | 0.04  | 0.19         | 0.05 | 0.14  | 0.19 |
|                                                                      |                             | HV%          | 7%   | 25%   | 11%          | 18%  | 8%    | 11%  |
| ITWAL Limited<br>440 Railside Drive,<br>Brampton<br>[23,007 m² GFA]  | Wednesday, January 20, 2016 | Trip Rate    | 0.06 | 0.02  | 0.08         | 0.01 | 0.03  | 0.04 |
|                                                                      |                             | HV%          | 7%   | 50%   | 17%          | 33%  | 14%   | 20%  |
| Prologis<br>8020 & 8030 Esquesing<br>Line, Milton<br>[74,900 m² GFA] | Thursday, August 16, 2018   | Trip Rate    | 0.18 | 0.03  | 0.21         | 0.04 | 0.16  | 0.20 |
|                                                                      |                             | HV%          | 9%   | 35%   | 13%          | 31%  | 5%    | 10%  |
| Prologis<br>8020 & 8030 Esquesing<br>Line, Milton<br>[74,900 m² GFA] | Tuesday, February 2, 2016   | Trip Rate    | 0.15 | 0.02  | 0.17         | 0.02 | 0.14  | 0.16 |
|                                                                      |                             | HV%          | 10%  | 71%   | 17%          | 60%  | 10%   | 16%  |
| Walmart<br>6800 Maritz Drive,<br>Mississauga<br>[108,125 m² GFA]     | Thursday, November 21, 2013 | Trip Rate    | 0.07 | 0.05  | 0.12         | 0.06 | 0.08  | 0.14 |
|                                                                      |                             | HV%          | 30%  | 62%   | 43%          | 72%  | 48%   | 58%  |
| Prologis<br>200 Courtney Park,<br>Mississauga[98,780 m² GFA]         | Thursday, November 21, 2013 | Trip Rate    | 0.13 | 0.07  | 0.20         | 0.03 | 0.08  | 0.11 |
|                                                                      |                             | HV%          | 13%  | 7%    | 11%          | 77%  | 36%   | 48%  |
| Chisholm Drive / Industrial Drive, Milton<br>[52,270 m² GFA]         | Tuesday, October 6, 2015    | Trip Rate    | 0.13 | 0.04  | 0.17         | 0.04 | 0.19  | 0.23 |
|                                                                      |                             | HV%          | 17%  | 30%   | 21%          | 37%  | 8%    | 13%  |
| Holgate Crescent / James Snow Pkwy, Milton<br>[16,059 m² GFA]        | Tuesday, October 6, 2015    | Trip Rate    | 0.24 | 0.06  | 0.30         | 0.02 | 0.22  | 0.24 |
|                                                                      |                             | HV%          | 36%  | 78%   | 44%          | 100% | 14%   | 21%  |
| Harrop Drive / Steeles Avenue, Milton<br>[3,653 m² GFA]              | Tuesday, October 6, 2015    | Trip Rate    | 0.27 | 0.27  | 0.54         | 0.03 | 0.11  | 0.14 |
|                                                                      |                             | HV%          | 20%  | 50%   | 35%          | 100% | 50%   | 60%  |
| Continued on Next Page                                               |                             |              |      |       |              |      |       |      |



| Location / Use                                              | Time Period / Parameter    |           | AM Peak Hour |      |       | PM Peak Hour |      |       |
|-------------------------------------------------------------|----------------------------|-----------|--------------|------|-------|--------------|------|-------|
|                                                             |                            |           | In           | Out  | 2-Way | In           | Out  | 2-Way |
| 8450 Boston Church Road (Ryder), Milton<br>[123,826 m² GFA] | Thursday, January 28, 2016 | Trip Rate | 0.02         | 0.01 | 0.03  | 0.07         | 0.08 | 0.15  |
|                                                             |                            | HV%       | 28%          | 57%  | 41%   | 10%          | 6%   | 8%    |
| Boston Church Road (Whirlpool), Milton<br>[69,577 m² GFA]   | Thursday, January 28, 2016 | Trip Rate | 0.02         | 0.01 | 0.03  | 0.02         | 0.04 | 0.06  |
|                                                             |                            | HV%       | 67%          | 71%  | 68%   | 82%          | 16%  | 36%   |
| 6 Cleve Court (Phase 1), Halton Hills<br>[29,920 m² GFA]    | Wednesday, March 6, 2019   | Trip Rate | 0.02         | 0.03 | 0.05  | 0.04         | 0.05 | 0.09  |
|                                                             |                            | HV%       | 0%           | 0%   | 0%    | 17%          | 25%  | 21%   |
| UPS Facility (12424 Dixie Road)<br>[78,774 m²]              | Tuesday, November 14, 2023 | Trip Rate | 0.14         | 0.06 | 0.19  | 0.10         | 0.09 | 0.19  |
|                                                             |                            | HV%       | 19%          | 43%  | 63%   | 29%          | 24%  | 53%   |
| Average of Trip Rates                                       |                            |           | 0.12         | 0.05 | 0.18  | 0.04         | 0.11 | 0.15  |
| Adopted Trip Rate                                           |                            |           | 0.12         | 0.05 | 0.18  | 0.04         | 0.11 | 0.15  |
| Weighted Average of Heavy Vehicle Percentages               |                            |           | 18%          | 43%  | 28%   | 42%          | 17%  | 26%   |
| Proposed Site Adopted Trip Rate                             |                            |           | 0.12         | 0.05 | 0.18  | 0.04         | 0.11 | 0.15  |
| Proposed Site Heavy Vehicle Percentages                     |                            |           | 18%          | 43%  | 28%   | 42%          | 17%  | 26%   |

Notes:

1. Conservatively based on the smallest building's GFA.

## 7.4.2 Site Light Vehicle Trip Generation

Based on the above-selected rate, the traffic volumes projected to be generated by the proposed development in the AM and PM peak hours are summarized in **Table 8**.

**TABLE 8      LIGHT VEHICLE TRIP GENERATION SUMMARY**

|                                                                      | Size                         | AM Peak Hour |           |            | PM Peak Hour |            |            |
|----------------------------------------------------------------------|------------------------------|--------------|-----------|------------|--------------|------------|------------|
|                                                                      |                              | In           | Out       | 2-Way      | In           | Out        | 2-Way      |
| Adopted Vehicle Trip Rate<br>(vehicle trips per 100 m <sup>2</sup> ) |                              | 0.12         | 0.05      | 0.17       | 0.04         | 0.11       | 0.15       |
| <b>Site Trips</b>                                                    |                              |              |           |            |              |            |            |
| Building 1                                                           | <b>42,912 m<sup>2</sup></b>  | 40           | 10        | 50         | 10           | 35         | 45         |
| Building 2                                                           | <b>49,269 m<sup>2</sup></b>  | 50           | 15        | 65         | 10           | 45         | 55         |
| Building 3                                                           | <b>44,395 m<sup>2</sup></b>  | 45           | 10        | 55         | 10           | 40         | 50         |
| <b>Total Vehicle Trips</b>                                           | <b>136,576 m<sup>2</sup></b> | <b>135</b>   | <b>35</b> | <b>170</b> | <b>30</b>    | <b>120</b> | <b>150</b> |

Notes:

1. Trips rounded to the nearest 5 vehicles.
2. Based on statistics provided by Quadreal Property Group dated November 22, 2023.

On the basis of the above, it is estimated that the Proposed Development will generate in the order of 170 and 150 two-way light vehicle trips during the AM and PM peak hour periods, respectively.

### 7.4.3      Site Heavy Vehicle Trip Generation

Similar to trip generation rates, heavy vehicle profiles can also vary considerably between the varieties of warehousing uses discussed above.

As such, Site heavy vehicle percentages were determined by adopting the same methodology outlined above for the trip generation rates, as outlined in **Table 7**.

The average heavy vehicle percentage analysis and the resultant heavy vehicle percentage are summarized in **Table 9**.

**TABLE 9 HEAVY VEHICLE TRIP GENERATION SUMMARY**

|                                                                      | Size                         | AM Peak Hour |           |           | PM Peak Hour |           |           |
|----------------------------------------------------------------------|------------------------------|--------------|-----------|-----------|--------------|-----------|-----------|
|                                                                      |                              | In           | Out       | 2-Way     | In           | Out       | 2-Way     |
| Adopted Vehicle Trip Rate<br>(vehicle trips per 100 m <sup>2</sup> ) |                              | 0.12         | 0.05      | 0.18      | 0.04         | 0.11      | 0.15      |
| Adopted Heavy Vehicle Percentages                                    |                              | 18%          | 43%       | 28%       | 42%          | 17%       | 26%       |
| <b>Site Trips</b>                                                    |                              |              |           |           |              |           |           |
| Building 1                                                           | 42,912 m <sup>2</sup>        | 10           | 10        | 20        | 5            | 10        | 15        |
| Building 2                                                           | 49,269 m <sup>2</sup>        | 10           | 10        | 20        | 10           | 10        | 20        |
| Building 3                                                           | 44,395 m <sup>2</sup>        | 10           | 10        | 20        | 10           | 10        | 20        |
| <b>Total Vehicle Trips</b>                                           | <b>136,576 m<sup>2</sup></b> | <b>30</b>    | <b>30</b> | <b>60</b> | <b>25</b>    | <b>30</b> | <b>55</b> |

Notes:

1. Trips rounded to the nearest 5 vehicles.
2. Based on statistics provided by Quadreal Property Group dated November 22, 2023.

On the basis of the above, it is estimated that the Proposed Development will generate in the order of 60 and 55 two-way heavy vehicle trips during the AM and PM peak hour periods, respectively.

#### 7.4.4 Heavy and Light Vehicle Volumes

Based on the above heavy vehicle percentages, the heavy and light vehicle volumes projected to be generated by the Proposed Development along with the total net-new traffic volumes in the AM and PM peak hours are summarized in **Table 10**.

**TABLE 10 HEAVY AND LIGHT VEHICLE VOLUMES**

|                                   | AM Peak Hour |           |            | PM Peak Hour |            |            |
|-----------------------------------|--------------|-----------|------------|--------------|------------|------------|
|                                   | In           | Out       | 2-Way      | In           | Out        | 2-Way      |
| Heavy Vehicle Percentage          | 18%          | 43%       | 28%        | 42%          | 17%        | 26%        |
| <b>Heavy Vehicle Volumes</b>      |              |           |            |              |            |            |
| Building 1                        | 10           | 10        | 20         | 5            | 10         | 15         |
| Building 2                        | 10           | 10        | 20         | 10           | 10         | 20         |
| Building 3                        | 10           | 10        | 20         | 10           | 10         | 20         |
| <b>Total Heavy Vehicle Trips</b>  | <b>30</b>    | <b>30</b> | <b>60</b>  | <b>25</b>    | <b>30</b>  | <b>55</b>  |
| <b>Light Vehicle Volumes</b>      |              |           |            |              |            |            |
| Building 1                        | 40           | 10        | 50         | 10           | 35         | 45         |
| Building 2                        | 50           | 15        | 65         | 10           | 45         | 55         |
| Building 3                        | 45           | 10        | 55         | 10           | 40         | 50         |
| <b>Total Light Vehicle Trips</b>  | <b>135</b>   | <b>35</b> | <b>170</b> | <b>30</b>    | <b>120</b> | <b>150</b> |
| <b>Total Net-New Site Volumes</b> | <b>165</b>   | <b>65</b> | <b>230</b> | <b>55</b>    | <b>150</b> | <b>205</b> |

Notes:

1. Trips rounded to the nearest 5 vehicles.

It is estimated that the Proposed Development will generate in the order of 230 and 205 two-way vehicle trips during the AM and PM peak hour periods, respectively.

#### 7.4.5 Vehicle Trip Distribution

Site traffic for light vehicles was assigned onto the area road network based on the results of the 2016 Transportation Tomorrow Survey (TTS) for work-based trips, while heavy vehicle distribution was based on prevailing traffic patterns and area turn restrictions. The resulting inbound and outbound distribution for the AM and PM peak for light and heavy vehicles is summarized in **Table 11** and **Table 12**, respectively.

**TABLE 11 TTS SITE TRAFFIC DISTRIBUTION**

| Street          | Direction | Light Vehicles <sup>1</sup> |          |
|-----------------|-----------|-----------------------------|----------|
|                 |           | Inbound                     | Outbound |
| Dixie Road      | North     | 20%                         | 25%      |
|                 | South     | 20%                         | 15%      |
| Mayfield Road   | East      | 15%                         | 10%      |
|                 | West      | 30%                         | 35%      |
| Old School Road | East      | 15%                         | 15%      |
|                 | West      | 0%                          | 0%       |
| Total           |           | 100%                        | 100%     |

Notes:

1. Based on TTS (2016) analysis for work-based trips for TTS zone 3012, 3013, 3014, 3015, 3439, 3438, 3191.

**TABLE 12 EXISTING SURVEY SITE TRAFFIC DISTRIBUTION**

| Street          | Direction | Heavy Vehicles <sup>1</sup> |          |
|-----------------|-----------|-----------------------------|----------|
|                 |           | Inbound                     | Outbound |
| AM Distribution |           |                             |          |
| Dixie Road      | North     | 15%                         | 10%      |
|                 | South     | 15%                         | 15%      |
| Mayfield Road   | East      | 5%                          | 5%       |
|                 | West      | 60%                         | 65%      |
| Old School Road | East      | 5%                          | 5%       |
|                 | West      | 0%                          | 0%       |
| Total           |           | 100%                        | 100%     |
| PM Distribution |           |                             |          |
| Dixie Road      | North     | 35%                         | 15%      |
|                 | South     | 5%                          | 5%       |
| Mayfield Road   | East      | 10%                         | 10%      |
|                 | West      | 50%                         | 60%      |
| Old School Road | East      | 0%                          | 10%      |
|                 | West      | 0%                          | 0%       |
| Total           |           | 100%                        | 100%     |

Notes:

1. Based on observed heavy vehicle distributions within the turning movement count along Dixie Road and Mayfield Road.

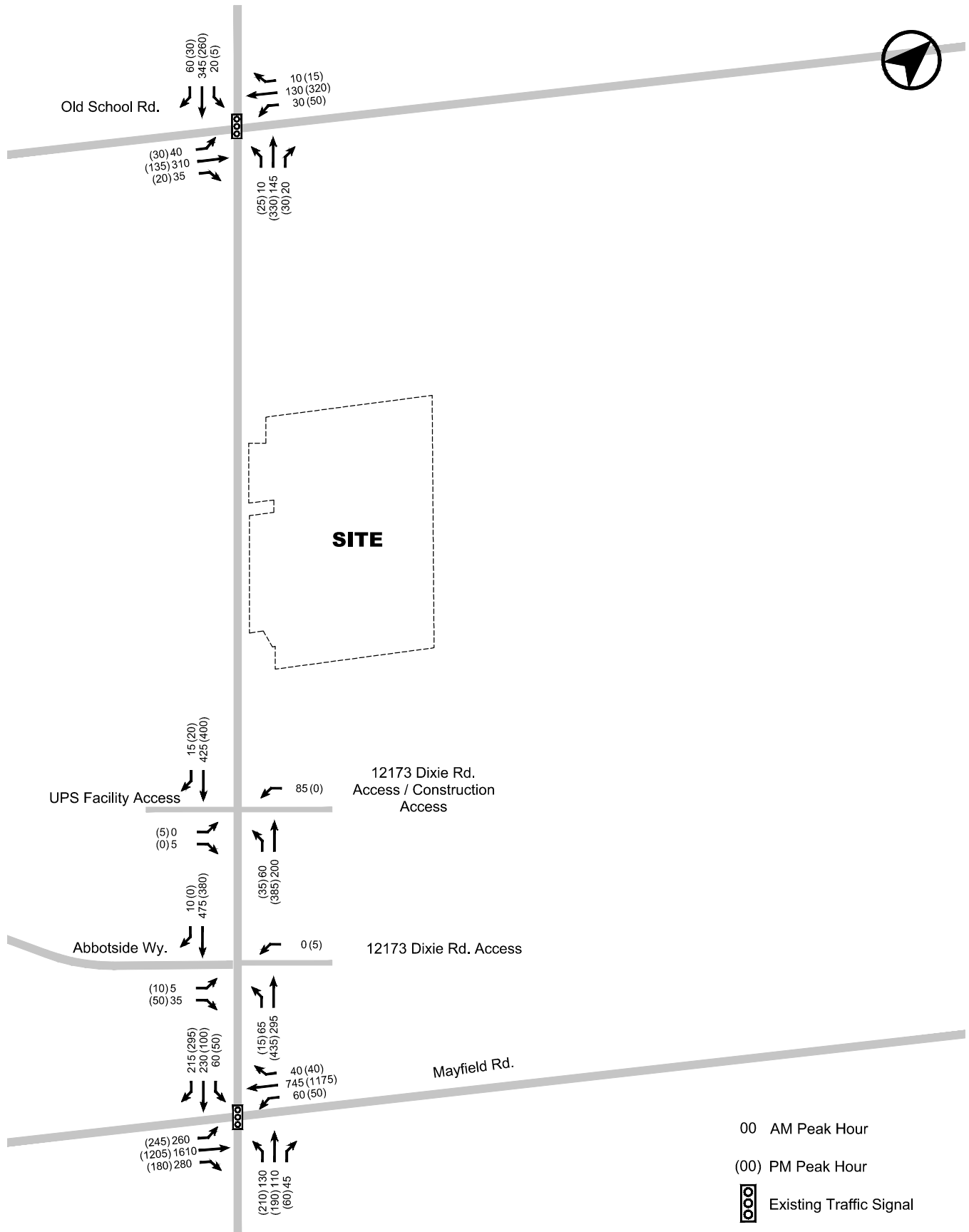


#### 7.4.6 Site Traffic Volumes

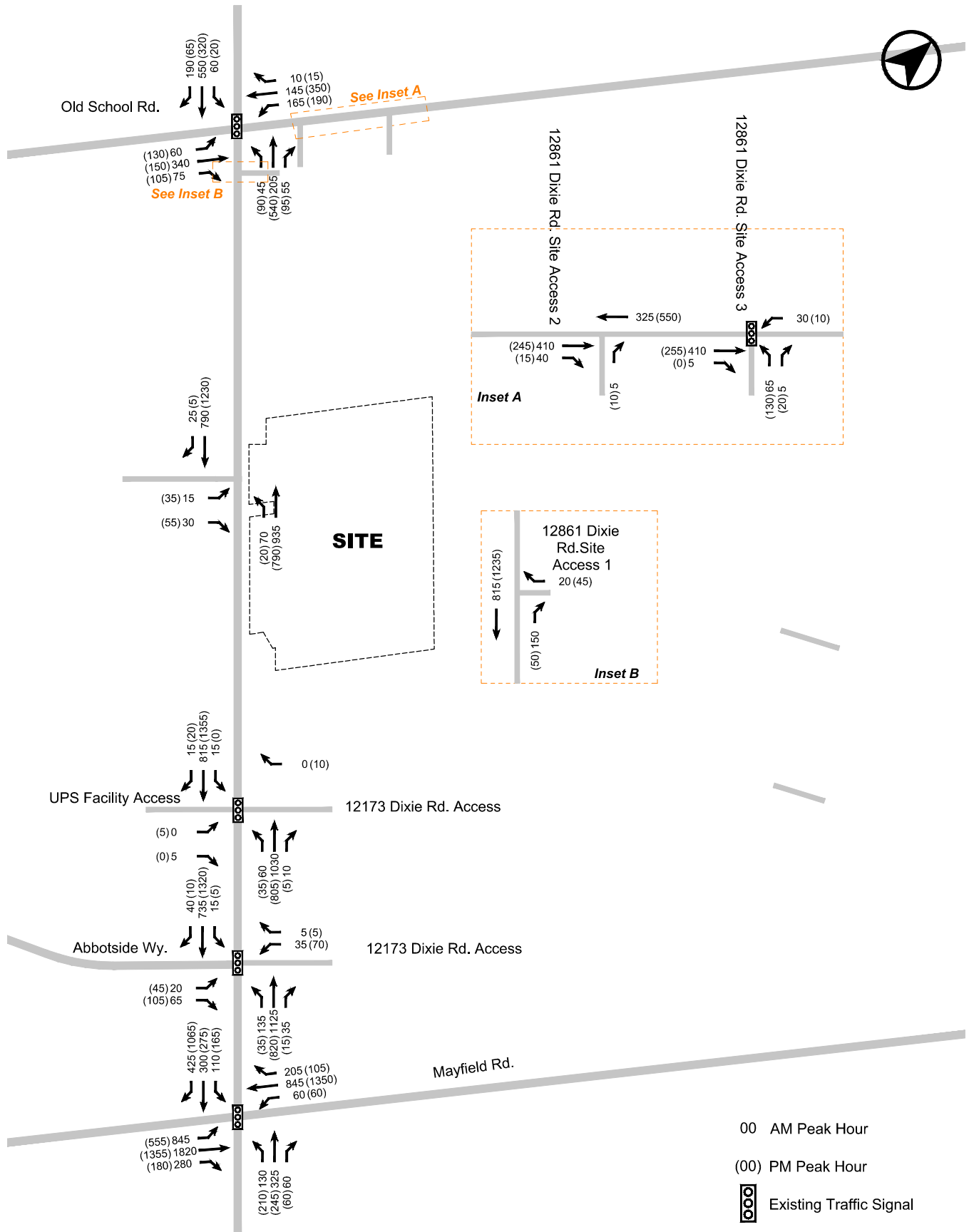
The projected Site light vehicle traffic volumes, Site heavy vehicle traffic volumes, and Site total traffic volumes are shown in **Figure 11**, **Figure 12**, and **Figure 13**, respectively.

#### 7.4.7 Future Total Traffic Volumes

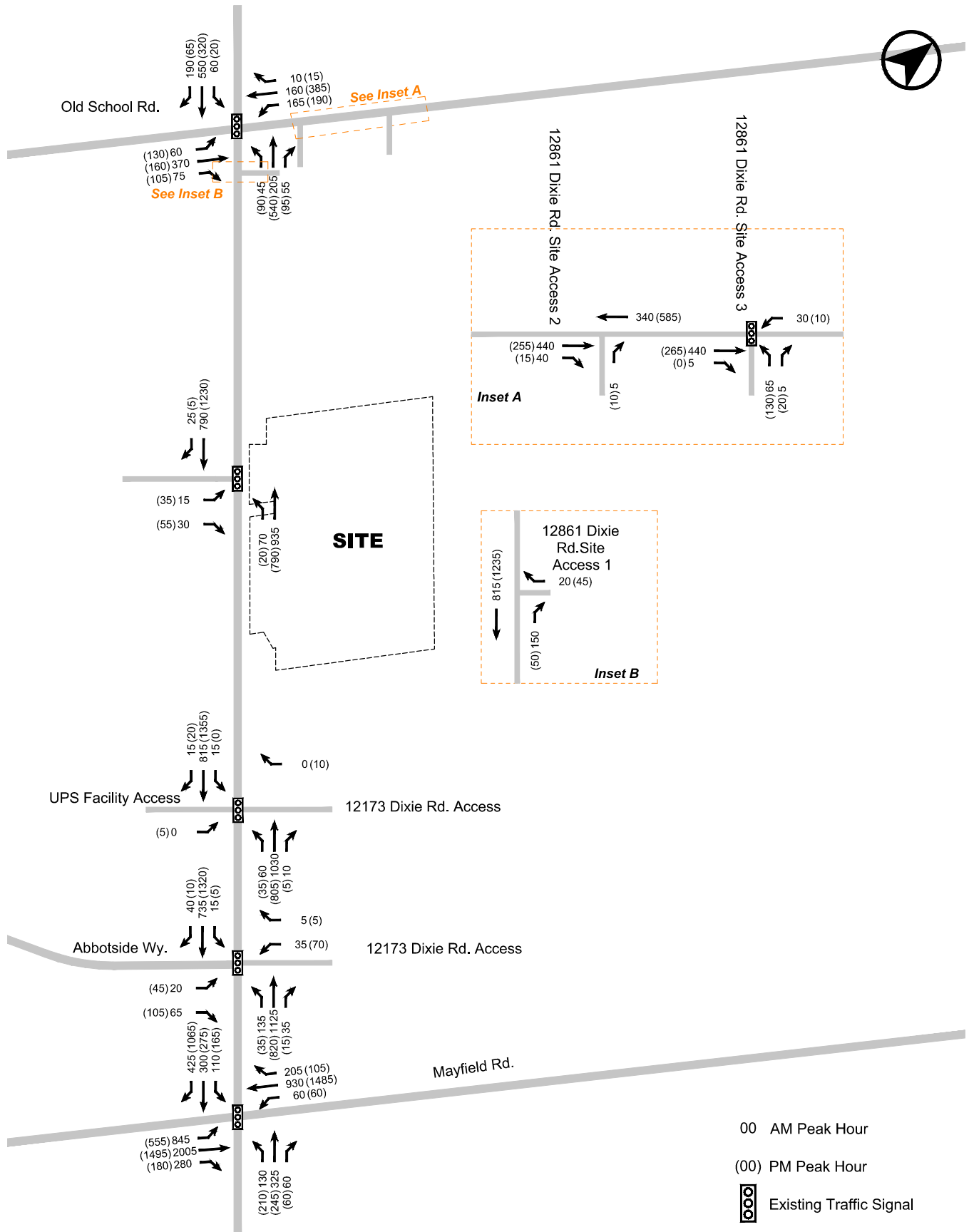
Future total traffic volumes are determined by adding the Site total traffic volumes and future background volumes, and are shown in **Figure 14** and **Figure 15** for the 2028 and 2033 horizons, respectively.



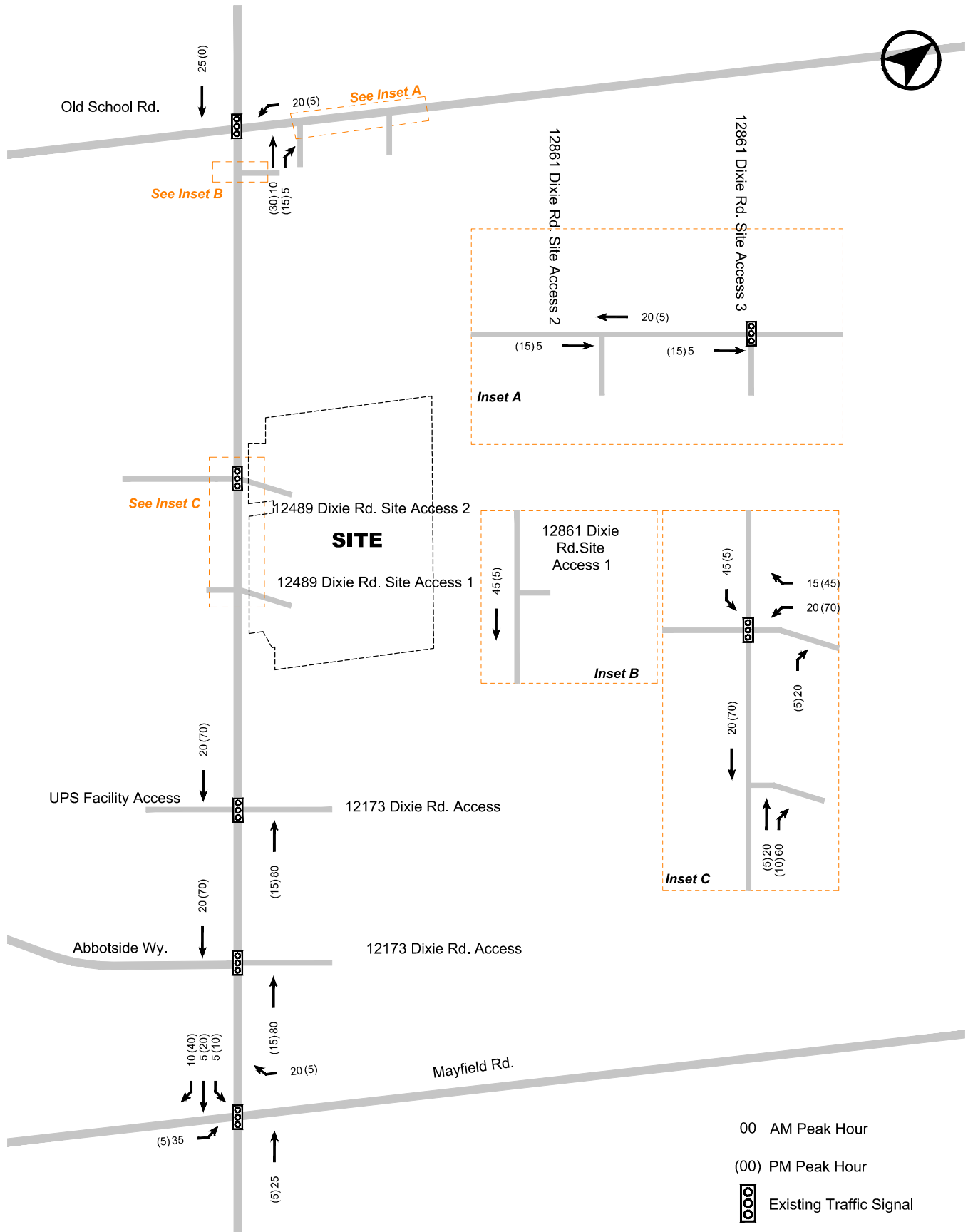
**FIGURE 8 EXISTING TOTAL TRAFFIC VOLUMES**



**FIGURE 9 FUTURE BACKGROUND 2028 TOTAL TRAFFIC VOLUMES**

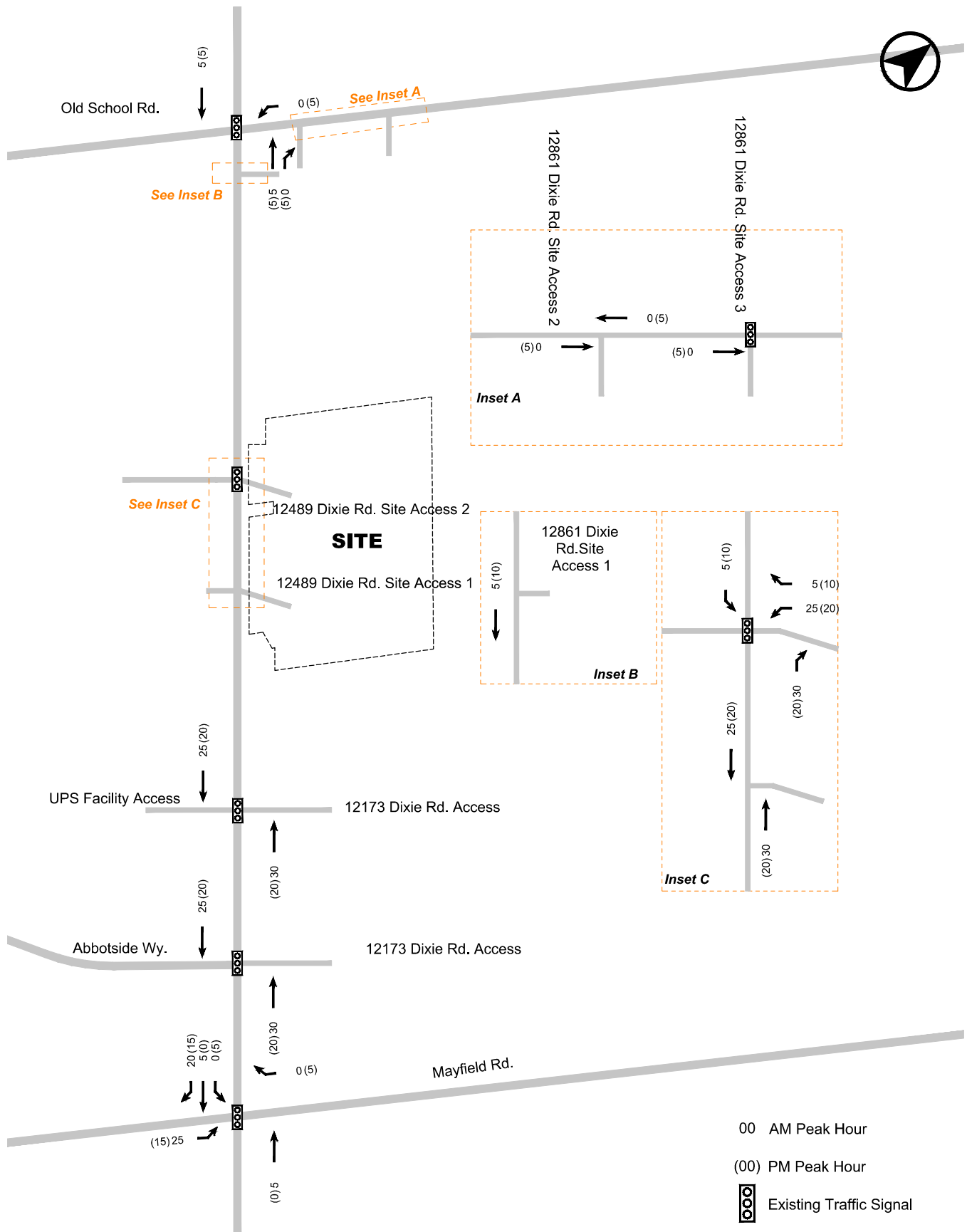


**FIGURE 10 FUTURE BACKGROUND 2033 TOTAL TRAFFIC VOLUMES**



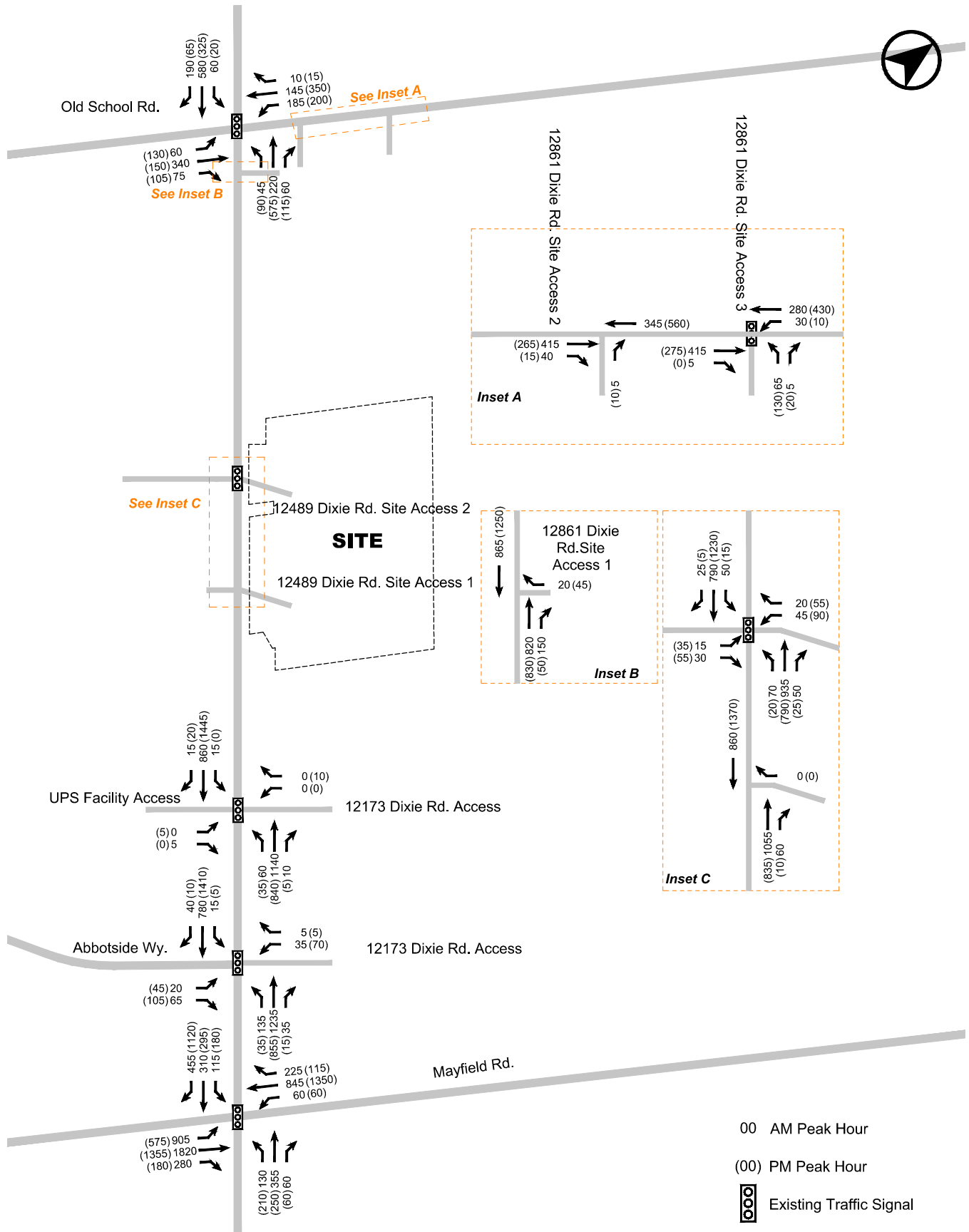
**FIGURE 11 TOTAL LIGHT VEHICLE TRAFFIC VOLUMES**



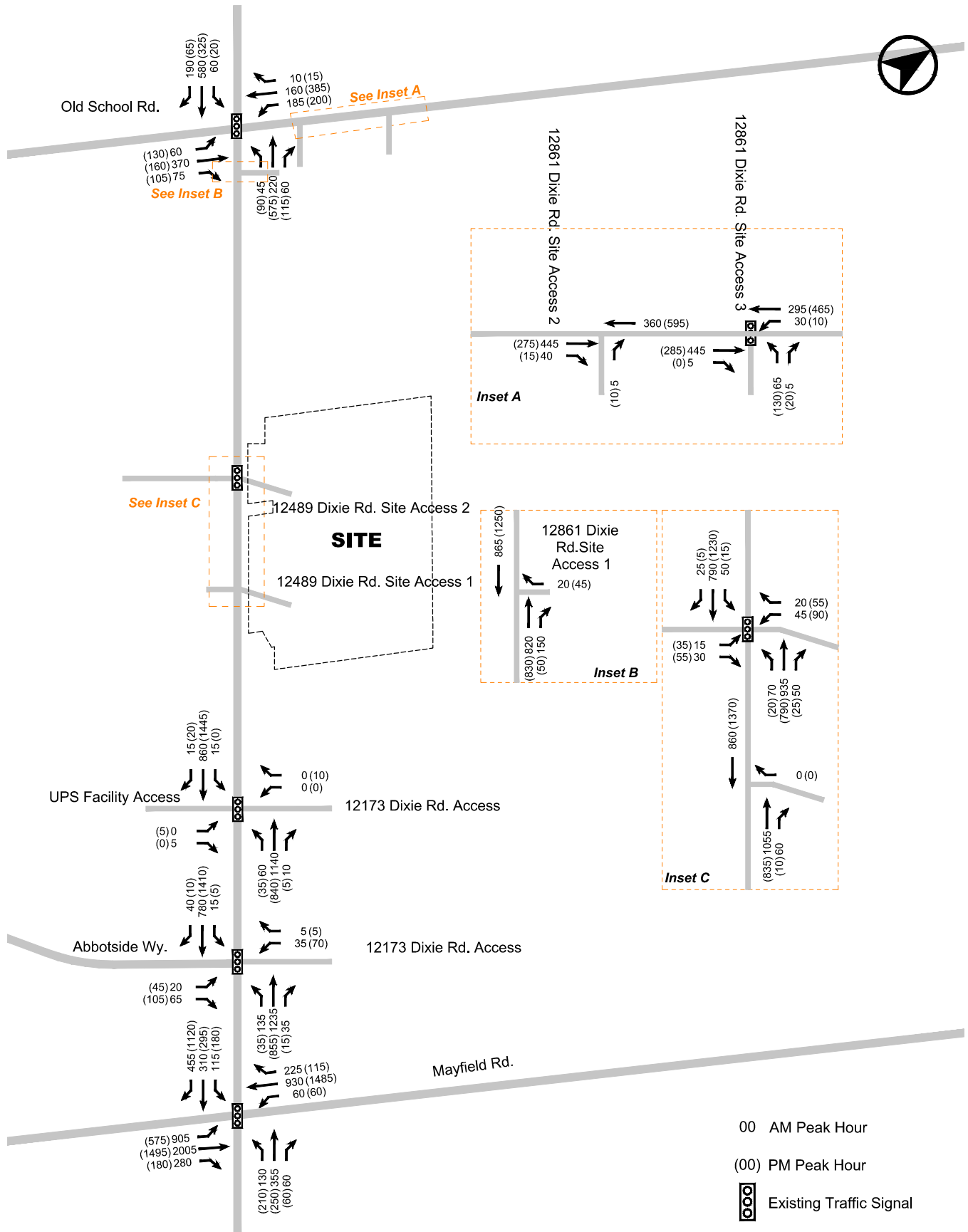


**FIGURE 12 TOTAL HEAVY VEHICLE TRAFFIC VOLUMES**





**FIGURE 14 FUTURE TOTAL 2028 TOTAL TRAFFIC VOLUMES**



**FIGURE 15 FUTURE TOTAL 2033 TOTAL TRAFFIC VOLUMES**

## 8.0 TRAFFIC OPERATIONS ANALYSIS

### 8.1 TRAFFIC OPERATIONS SCENARIOS

A traffic operations analysis was completed for the following scenarios:

- Existing traffic conditions;
- Future background traffic conditions (2028 horizon year);
- Future total traffic conditions (2028 horizon year);
- Future background traffic conditions (2033 horizon year); and
- Future total traffic conditions (2033 horizon year).

### 8.2 ANALYSIS METHODOLOGY

The intersection capacity analysis was completed using Synchro Version 11 and the Highway Capacity Manual (HCM) methodology.

For signalized intersections, the volume-to-capacity ratio ( $v/c$ ) is an indicator of the capacity utilization for the key movements in the intersection. A  $v/c$  of 1.00 indicates that certain governing traffic movements through the intersection are operating at or near maximum capacity. The primary overall level of service (LOS) indicator is delay, both on individual movements and expressed as an average for all vehicles processed.

For unsignalized intersections, LOS characterizes operational conditions for key movements in terms of delay within the traffic stream. LOS A represents a good level of service with short delays, and based on the Region of Peel's Synchro Guidelines, LOS E represents "an unacceptable LOS", and this implies long delays. The volume-to-capacity ratio ( $v/c$ ) is an indicator of the capacity utilization for key movements at the intersection and the resultant residual capacity potential.

## 8.3 INPUT AND CALIBRATION PARAMETERS

Key parameters adopted in the analysis include:

### Lane Configurations

Under all analysis scenarios, the existing lane configurations of the area road network were generally assumed as per existing conditions. Under the 2028 and 2033 horizons, it was assumed that Dixie Road would be widened to 4 lanes, as outlined in **Section 2.5.1** and Mayfield Road would be widened to 6 lanes, as outlined in **Section 2.5.2**. Future (2028 and 2033) lane configurations are shown in **Figure 16**.

Based on the Region of Peel's "Regional Guidelines for Using Synchro, Version 7.73 Rev 8" dated December, lane widths have been adopted through auxiliary turn lanes as follows:

- 3.7 metres along through lanes on Regional Roads;
- 3.5 metres along turn lanes on Regional Roads; and
- 3.5 metres along through and turn lanes on City of Caledon Roads.

### Traffic Signal Timings

Traffic signal timings have been obtained from the Region of Peel and are provided in **Appendix G**. The existing traffic signal timings have been adopted for existing conditions analysis.

Under future background and future total conditions, traffic signal timings have been optimized to best accommodate the forecasted future travel demands and patterns and to respond to evolving traffic conditions. Where traffic signal optimization is recommended, it has been noted in the subsequent sections discussing intersection operations.

It is noteworthy that the Dixie Road / Mayfield Road intersection's cycle length was extended from 120 seconds to 135 seconds, to maintain coordination with the other adjacent intersections such as at Bramalea Road / Mayfield Road. This cycle length coordination will also assist in reducing the queue lengths along the Mayfield Road corridor to prevent spill back into upstream intersections along the corridor.

### Peak Hour Factors (PHF)

The Region of Peel's Synchro Guidelines states that the peak hour factor should be 1.00 for all movements on all approaches. This is applied to all intersections in all scenarios.

### Pedestrian and Bicycle volumes

Pedestrian and bicycle volumes are based on those observed at the study area intersections under existing conditions.

### Heavy Vehicle Percentages

Existing heavy vehicle percentages were derived from turning movement counts. For new site-related truck trips, percentages are calculated as referenced within **Section 7.4.3**.



**Lost Time Adjustments**

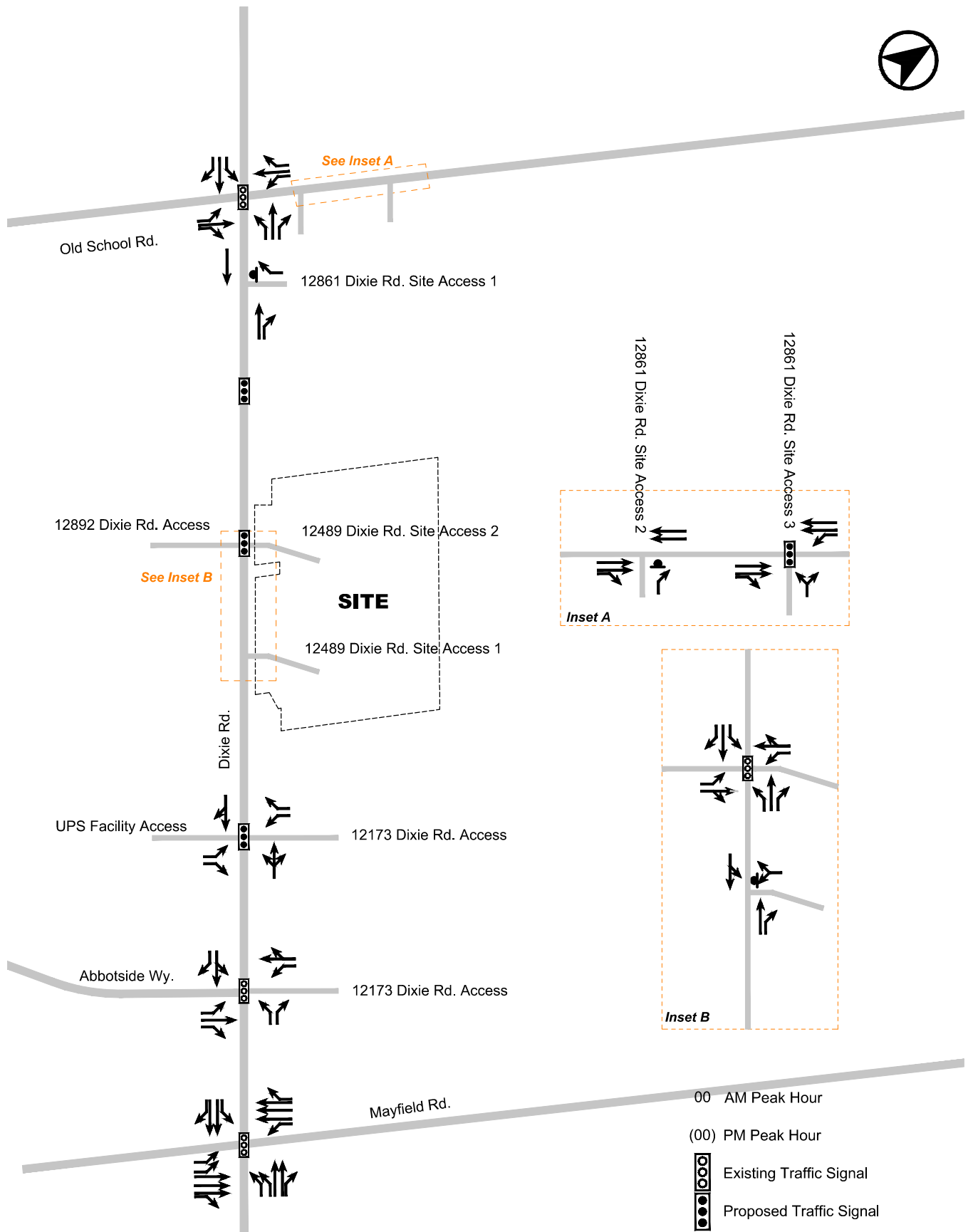
A lost time adjustment factor of -1.0 seconds was assumed for all left turn movements at the Dixie Road / Mayfield Road intersection as the proposed lane configuration and geometric design results in a wide cross-section, and therefore reduced headways are expected of drivers as the intersection approaches capacity.

**Synchro Defaults**

Synchro defaults have been adopted for all other parameters.

**SimTraffic Conditions**

15-minute seeding was used for four (4 x 15) recordings (total analysis of 1 hour).



**FIGURE 16 FUTURE (2028) LANE CONFIGURATION AND TRAFFIC CONTROL**

## 8.4 STUDY AREA INTERSECTION OPERATIONS

The following sections discuss the operations of the study area intersections. Synchro reports are provided in **Appendix H**.

It is recommended that the cycle length at the Dixie Road / Mayfield Road signalized intersection should be increased to 135 seconds during the weekday morning and afternoon peak periods, in order to maintain coordination with the other adjacent intersections such as at Bramalea Road / Mayfield Road in the future time horizon. This cycle length coordination will also assist in reducing the queue lengths along the Mayfield Road corridor to prevent spill back into upstream intersections along the corridor.

Further recommendations include the signalization of the following site access intersections:

- Dixie Road / Site Access 2 / 12892 Dixie Road South Signal Access

Signalization of the Site access would result in improved operations and improve the pedestrian experience by elevating the safety standards at the intersections. Signal warrant analyses in addition to additional discussion are provided within **Section 9.0**.

## 8.4.1 Signalized Intersections

### 8.4.1.1 Dixie Road / Mayfield Road

At Dixie Road / Mayfield Road, the intersection currently operates under traffic signal control with a cycle length of 120 seconds during both the weekday morning and afternoon peak hour periods. Under all future background and future total scenarios, signal phasings were optimized within the existing cycle length. It is recommended that the cycle length at the Dixie Road / Mayfield Road signalized intersection should be increased to 135 seconds during the weekday morning and afternoon peak periods in the future, to maintain coordination with the other adjacent intersections such as at Bramalea Road / Mayfield Road. This cycle length coordination will also assist in reducing the queue lengths along the Mayfield Road corridor, helping to prevent spill backs into upstream intersections along the corridor.

As mentioned in **Section 2.5.1**, Dixie Road is planned to be widened to 6 through lanes plus turning lanes from north of Queen Street to Countryside Drive and 4 through lanes plus turning lanes north of Countryside Drive to approximately two kilometres north of Mayfield Road.

The traffic signal analysis results are summarized in **Table 13**.

Under existing conditions, the intersection operates with overall v/c ratios of 0.78 and 0.67, in the weekday morning and afternoon peak hours, respectively.

Under future background (2028) conditions and a cycle length of 135 seconds, the intersection will operate with overall v/c ratios of 0.73 and 0.95, in the weekday morning and afternoon peak hours, respectively.

Under future total (2028) conditions and a cycle length of 135 seconds, as the proposed development is fully developed, the intersection will operate with overall v/c ratios of 0.78 and 1.02, in the weekday morning and afternoon peak hours, respectively. Although the intersection operates at an overall v/c ratio of 1.02 in the weekday afternoon peak hour period, all individual movements operate under a v/c ratio of 1.00.

Under future background (2033) conditions and a cycle length of 135 seconds, the intersection will operate with overall v/c ratios of 0.75 and 0.95, in the weekday morning and afternoon peak hours, respectively.

Under future total (2033) conditions and a cycle length of 135 seconds, as the proposed development is fully developed, the intersection will operate with overall v/c ratios of 0.80 and 1.01, in the weekday morning and afternoon peak hours, respectively. Although the intersection operates at an overall v/c ratio of 1.01 in the weekday afternoon peak hour period, all individual movements operate under a v/c ratio of 1.00.

Based on the foregoing, no further improvements or mitigation measures, aside from traffic signal timing optimization and cycle length extension to accommodate existing travel flows, are recommended at this intersection, as an increase of the cycle length of the Dixie Road / Mayfield Road intersection brought measurable operational improvements. Overall, it is projected that Site traffic can be accommodated at this intersection with minimal impacts.

**TABLE 13 DIXIE ROAD / MAYFIELD ROAD CAPACITY ANALYSIS RESULTS**

| Key Movements  | Existing           |              | 2028 Horizon Year              |              |                    |              | 2033 Horizon Year              |              |                    |              |
|----------------|--------------------|--------------|--------------------------------|--------------|--------------------|--------------|--------------------------------|--------------|--------------------|--------------|
|                |                    |              | Future Background <sup>2</sup> |              | Future Total       |              | Future Background <sup>2</sup> |              | Future Total       |              |
|                | V/C                | LOS          | V/C                            | LOS          | V/C                | LOS          | V/C                            | LOS          | V/C                | LOS          |
| EBL            | 0.67 (0.60)        | B (B)        | 0.75 (0.64)                    | D (D)        | 0.86 (0.62)        | D (D)        | 0.77 (0.64)                    | D (D)        | 0.88 (0.71)        | D (D)        |
| EBT            | 0.64 (0.45)        | B (B)        | 0.65 (0.47)                    | C (B)        | 0.65 (0.47)        | C (B)        | 0.70 (0.53)                    | C (B)        | 0.71 (0.53)        | C (B)        |
| EBR            | 0.21 (0.13)        | B (B)        | 0.18 (0.12)                    | A (A)        | 0.18 (0.12)        | A (A)        | 0.18 (0.12)                    | A (A)        | 0.18 (0.12)        | A (A)        |
| WBL            | 0.44 (0.21)        | B (B)        | 0.45 (0.29)                    | D (C)        | 0.45 (0.31)        | D (D)        | 0.45 (0.32)                    | D (C)        | 0.45 (0.32)        | D (C)        |
| WBTR           | 0.46 (0.59)        | C (C)        | -- (--)                        | -- (--)      | -- (--)            | -- (--)      | -- (--)                        | -- (--)      | -- (--)            | -- (--)      |
| WBT            | -- (--)            | -- (--)      | 0.77 (0.84)                    | D (D)        | 0.75 (0.96)        | D (E)        | 0.79 (0.95)                    | D (E)        | 0.77 (0.94)        | D (E)        |
| WBR            | -- (--)            | -- (--)      | 0.14 (0.11)                    | C (B)        | 0.15 (0.14)        | C (C)        | 0.14 (0.11)                    | C (B)        | 0.16 (0.13)        | C (B)        |
| NBL            | 1.01 (0.78)        | F (E)        | 0.53 (0.98)                    | D (F)        | 0.52 (0.98)        | D (F)        | 0.57 (0.92)                    | D (F)        | 0.56 (0.91)        | D (F)        |
| NBT            | 0.36 (0.47)        | D (D)        | 0.63 (0.58)                    | E (E)        | 0.68 (0.56)        | E (E)        | 0.63 (0.58)                    | E (E)        | 0.68 (0.56)        | E (E)        |
| NBR            | 0.04 (0.05)        | D (D)        | 0.05 (0.05)                    | C (B)        | 0.05 (0.05)        | C (C)        | 0.05 (0.05)                    | C (B)        | 0.05 (0.05)        | C (B)        |
| SBL            | 0.35 (0.31)        | D (D)        | 0.60 (0.80)                    | D (E)        | 0.64 (0.88)        | D (F)        | 0.65 (0.76)                    | D (E)        | 0.68 (0.83)        | E (E)        |
| SBT            | 0.72 (0.26)        | D (D)        | 0.64 (0.66)                    | E (E)        | 0.66 (0.68)        | E (E)        | 0.64 (0.66)                    | E (E)        | 0.66 (0.68)        | E (E)        |
| SBR            | 0.35 (0.65)        | D (D)        | 0.30 (0.87)                    | A (B)        | 0.36 (0.96)        | A (C)        | 0.30 (0.88)                    | A (B)        | 0.36 (0.97)        | A (C)        |
| <b>Overall</b> | <b>0.78 (0.67)</b> | <b>C (C)</b> | <b>0.73 (0.95)</b>             | <b>C (C)</b> | <b>0.78 (1.02)</b> | <b>C (D)</b> | <b>0.75 (0.95)</b>             | <b>C (D)</b> | <b>0.80 (1.01)</b> | <b>C (D)</b> |

Notes:

1. XX (XX) – AM (PM)

#### 8.4.1.2 Dixie Road / Abbotside Way / 12173 Site Access

The Dixie Road / Abbotside Way / 12173 Site Access intersection currently operates under unsignalized control and is proposed to be signalized as part of the 12173 Dixie Road site development, and therefore included within all future traffic scenarios.

Under future background (2028) conditions, the intersection will operate with overall v/c ratios of 0.43 and 0.54, in the weekday morning and afternoon peak hours, respectively.

Under future total (2028) conditions, as the Proposed Development is fully developed, the intersection will operate with overall v/c ratios of 0.49 and 0.59, in the weekday morning and afternoon peak hours, respectively.

Under future background (2033) conditions, the intersection will operate with overall v/c ratios of 0.43 and 0.54, in the weekday morning and afternoon peak hours, respectively.

Under future total (2033) conditions, as the Proposed Development is fully developed, the intersection will operate with overall v/c ratios of 0.49 and 0.59, in the weekday morning and afternoon peak hours, respectively.

Based on the foregoing, no further improvements or mitigation measures are recommended at this intersection. Overall, it is projected that Site traffic can be accommodated at this intersection with minimal impacts.

**TABLE 14 DIXIE ROAD / ABBOTSDIE WAY / 12173 SITE ACCESS ROAD CAPACITY ANALYSIS RESULTS**

| Key Movements  | Existing       |                | 2028 Horizon Year  |              |                    |              | 2033 Horizon Year  |              |                    |              |
|----------------|----------------|----------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|
|                |                |                | Future Background  |              | Future Total       |              | Future Background  |              | Future Total       |              |
|                | V/C            | LOS            | V/C                | LOS          | V/C                | LOS          | V/C                | LOS          | V/C                | LOS          |
| EBL            | -- (--)        | -- (--)        | 0.20 (0.30)        | D (D)        | 0.20 (0.30)        | D (D)        | 0.20 (0.30)        | D (D)        | 0.20 (0.30)        | D (D)        |
| EBR            | -- (--)        | -- (--)        | 0.05 (0.34)        | D (D)        | 0.05 (0.40)        | D (D)        | 0.05 (0.34)        | D (D)        | 0.05 (0.40)        | D (D)        |
| WBL            | -- (--)        | -- (--)        | 0.51 (0.59)        | E (E)        | 0.51 (0.59)        | E (E)        | 0.51 (0.59)        | E (E)        | 0.51 (0.59)        | E (E)        |
| WBTR           | -- (--)        | -- (--)        | 0.00 (0.00)        | D (D)        | 0.00 (0.00)        | D (D)        | 0.00 (0.00)        | D (D)        | 0.00 (0.00)        | D (D)        |
| NBL            | -- (--)        | -- (--)        | 0.25 (0.15)        | A (A)        | 0.27 (0.16)        | A (A)        | 0.25 (0.15)        | A (A)        | 0.27 (0.16)        | A (A)        |
| NBT            | -- (--)        | -- (--)        | 0.42 (0.35)        | A (A)        | 0.49 (0.38)        | A (A)        | 0.42 (0.35)        | A (A)        | 0.49 (0.38)        | A (A)        |
| SBT            | -- (--)        | -- (--)        | 0.31 (0.53)        | A (A)        | 0.36 (0.59)        | A (A)        | 0.31 (0.53)        | A (A)        | 0.36 (0.59)        | A (A)        |
| SBR            | -- (--)        | -- (--)        | 0.03 (0.01)        | A (A)        | 0.03 (0.01)        | A (A)        | 0.03 (0.01)        | A (A)        | 0.03 (0.01)        | A (A)        |
| <b>Overall</b> | <b>-- (--)</b> | <b>-- (--)</b> | <b>0.43 (0.54)</b> | <b>A (A)</b> | <b>0.49 (0.59)</b> | <b>A (A)</b> | <b>0.43 (0.54)</b> | <b>A (A)</b> | <b>0.49 (0.59)</b> | <b>A (A)</b> |

### 8.4.1.3 Dixie Road / UPS Facility Access / 12173 Site Access

The Dixie Road / UPS Facility Access / 12173 Dixie Road Access currently operates under unsignalized control, and is proposed to be signalized as part of the 12173 Dixie Road site development. Therefore, signalization has been assumed for all future traffic scenarios.

Under future background (2028) conditions, the intersection will operate with overall v/c ratios of 0.57 and 0.88, in the weekday morning and afternoon peak hours, respectively.

Under future total (2028) conditions, as the Proposed Development is fully developed, the intersection will operate with overall v/c ratios of 0.65 and 0.98, in the weekday morning and afternoon peak hours, respectively.

Under future background (2033) conditions, the intersection will operate with overall v/c ratios of 0.57 and 0.88, in the weekday morning and afternoon peak hours, respectively.

Under future total (2033) conditions, as the Proposed Development is fully developed, the intersection will operate with overall v/c ratios of 0.65 and 0.98, in the weekday morning and afternoon peak hours, respectively.

Based on the foregoing, no further improvements or mitigation measures are recommended at this intersection. Overall, it is projected that Site traffic can be accommodated at this intersection with minimal impacts.

**TABLE 15 DIXIE ROAD / UPS FACILITY ACCESS / 12173 SITE ACCESS ROAD CAPACITY ANALYSIS RESULTS**

| Key Movements | Existing |         | 2028 Horizon Year |         |              |         | 2033 Horizon Year |        |              |        |
|---------------|----------|---------|-------------------|---------|--------------|---------|-------------------|--------|--------------|--------|
|               |          |         | Future Background |         | Future Total |         | Future Background |        | Future Total |        |
|               | V/C      | LOS     | V/C               | LOS     | V/C          | LOS     | V/C               | LOS    | V/C          | LOS    |
| EBL           | -- (--)  | -- (--) | -- (0.25)         | -- (E)  | -- (0.25)    | -- (E)  | -- (0.25)         | -- (E) | -- (0.25)    | -- (E) |
| EBR           | -- (--)  | -- (--) | 0.01 (--)         | E (--)  | 0.01 (--)    | E (--)  | 0.01 (--)         | E (--) | 0.01 (--)    | E (--) |
| WBR           | -- (--)  | -- (--) | -- (0.01)         | -- (E)  | -- (0.01)    | -- (E)  | -- (0.01)         | -- (E) | -- (0.01)    | -- (E) |
| NBTR          | -- (--)  | -- (--) | 0.43 (0.39)       | A (A)   | 0.50 (0.45)  | A (A)   | 0.35 (0.31)       | A (A)  | 0.41 (0.34)  | A (A)  |
| NBL           | -- (--)  | -- (--) | -- (--)           | -- (--) | -- (--)      | -- (--) | 0.11 (0.16)       | A (A)  | 0.11 (0.22)  | A (A)  |
| SBTR          | -- (--)  | -- (--) | 0.58 (0.89)       | A (B)   | 0.66 (0.99)  | B (D)   | 0.58 (0.89)       | A (B)  | 0.66 (0.99)  | B (D)  |
| Overall       | -- (--)  | -- (--) | 0.57 (0.88)       | A (B)   | 0.65 (0.98)  | A (C)   | 0.57 (0.88)       | A (B)  | 0.65 (0.98)  | A (C)  |



#### 8.4.1.4 Dixie Road / 12489 Dixie Road Site Access 2 / 12892 Dixie Road South Signal Access

The Dixie Road / Site Access 2 / 12489 Dixie Road Access intersection does not exist under existing conditions and is proposed as part of the 12173 Dixie Road site development. Therefore, it has been included in all future traffic scenarios.

Under future background (2028) conditions, the intersection will operate with overall v/c ratios of 0.61 and 0.80, in the weekday morning and afternoon peak hours, respectively.

Under future total (2028) conditions, as the Proposed Development is fully developed, the intersection will operate with overall v/c ratios of 0.67 and 0.89, in the weekday morning and afternoon peak hours, respectively.

Under future background (2033) conditions, the intersection will operate with overall v/c ratios of 0.61 and 0.80, in the weekday morning and afternoon peak hours, respectively.

Under future total (2033) conditions, as the Proposed Development is fully developed, the intersection will operate with overall v/c ratios of 0.67 and 0.89, in the weekday morning and afternoon peak hours, respectively.

Based on the foregoing, no further improvements or mitigation measures are recommended at this intersection. Overall, it is projected that Site traffic can be accommodated at this intersection with minimal impacts.

**TABLE 16 DIXIE ROAD / 12489 DIXIE ROAD SITE ACCESS 2 / 12892 DIXIE ROAD SOUTH SIGNAL ACCESS**

| Key Movements | Existing |         | 2028 Horizon Year |         |              |       | 2033 Horizon Year |         |              |       |
|---------------|----------|---------|-------------------|---------|--------------|-------|-------------------|---------|--------------|-------|
|               |          |         | Future Background |         | Future Total |       | Future Background |         | Future Total |       |
|               | V/C      | LOS     | V/C               | LOS     | V/C          | LOS   | V/C               | LOS     | V/C          | LOS   |
| EBL           | -- (--)  | -- (--) | 0.24 (0.40)       | E (E)   | 0.16 (0.23)  | D (D) | 0.24 (0.40)       | E (E)   | 0.16 (0.23)  | D (D) |
| EBTR          | -- (--)  | -- (--) | 0.02 (0.03)       | E (D)   | 0.03 (0.04)  | D (D) | 0.02 (0.03)       | E (D)   | 0.03 (0.04)  | D (D) |
| WBL           | -- (--)  | -- (--) | -- (--)           | -- (--) | 0.60 (0.66)  | E (E) | -- (--)           | -- (--) | 0.60 (0.66)  | E (E) |
| WBTR          | -- (--)  | -- (--) | -- (--)           | -- (--) | 0.02 (0.04)  | D (D) | -- (--)           | -- (--) | 0.02 (0.04)  | D (D) |
| NBL           | -- (--)  | -- (--) | 0.13 (0.08)       | A (A)   | 0.19 (0.21)  | A (A) | 0.13 (0.08)       | A (A)   | 0.19 (0.21)  | A (A) |
| NBT           | -- (--)  | -- (--) | 0.62 (0.60)       | B (A)   | 0.68 (0.67)  | B (B) | 0.62 (0.60)       | B (A)   | 0.68 (0.67)  | B (B) |
| NBR           | -- (--)  | -- (--) | -- (--)           | -- (--) | 0.05 (0.03)  | A (A) | -- (--)           | -- (--) | 0.05 (0.03)  | A (A) |
| SBL           | -- (--)  | -- (--) | -- (--)           | -- (--) | 0.14 (0.06)  | A (A) | -- (--)           | -- (--) | 0.14 (0.06)  | A (A) |
| SBT           | -- (--)  | -- (--) | 0.54 (0.83)       | A (B)   | 0.61 (0.93)  | B (C) | 0.54 (0.83)       | A (B)   | 0.61 (0.93)  | B (C) |
| SBR           | -- (--)  | -- (--) | 0.02 (0.00)       | A (A)   | 0.02 (0.00)  | A (A) | 0.02 (0.00)       | A (A)   | 0.02 (0.00)  | A (A) |
| Overall       | -- (--)  | -- (--) | 0.61 (0.80)       | A (B)   | 0.67 (0.89)  | B (B) | 0.61 (0.80)       | B (B)   | 0.67 (0.89)  | B (C) |

#### 8.4.1.5 Old School Road / Site Access 3

The Old School Road / Site Access 3 intersection does not exist under existing conditions and is proposed to be signalized as part of the Site development. Therefore, it has been included in all future traffic scenarios.

Under future background (2028) conditions, the intersection will operate with overall v/c ratios of 0.17 and 0.22, in the weekday morning and afternoon peak hours, respectively.

Under future total (2028) conditions, as the Proposed Development is fully developed, the intersection will operate with overall v/c ratios of 0.20 and 0.25, in the weekday morning and afternoon peak hours, respectively.

Under future background (2033) conditions, the intersection will operate with overall v/c ratios of 0.18 and 0.23, in the weekday morning and afternoon peak hours, respectively.

Under future total (2033) conditions, as the Proposed Development is fully developed, the intersection will operate with overall v/c ratios of 0.21 and 0.26, in the weekday morning and afternoon peak hours, respectively.

Based on the foregoing, no further improvements or mitigation measures are recommended at this intersection. Overall, it is projected that Site traffic can be accommodated at this intersection with minimal impacts.

**TABLE 17 OLD SCHOOL ROAD / SITE ACCESS 3 ROAD CAPACITY ANALYSIS RESULTS**

| Key Movements | Existing |         | 2028 Horizon Year |        |              |        | 2033 Horizon Year |        |              |        |
|---------------|----------|---------|-------------------|--------|--------------|--------|-------------------|--------|--------------|--------|
|               |          |         | Future Background |        | Future Total |        | Future Background |        | Future Total |        |
|               | V/C      | LOS     | V/C               | LOS    | V/C          | LOS    | V/C               | LOS    | V/C          | LOS    |
| EBT           | -- (--)  | -- (--) | 0.70 (0.43)       | D (C)  | 0.71 (0.46)  | D (D)  | 0.72 (0.42)       | D (C)  | 0.72 (0.44)  | C (D)  |
| EBR           | -- (--)  | -- (--) | 0.00 (--)         | C (--) | 0.01 (--)    | B (--) | 0.00 (--)         | C (--) | 0.01 (--)    | B (--) |
| WBT           | -- (--)  | -- (--) | 0.32 (0.06)       | D (D)  | 0.36 (0.09)  | D (D)  | 0.32 (0.06)       | D (D)  | 0.37 (0.09)  | D (D)  |
| WBL           | -- (--)  | -- (--) | 0.45 (0.71)       | D (D)  | 0.47 (0.71)  | D (D)  | 0.45 (0.72)       | D (D)  | 0.47 (0.73)  | D (D)  |
| WBT           | -- (--)  | -- (--) | 0.05 (0.11)       | A (A)  | 0.08 (0.15)  | A (A)  | 0.05 (0.12)       | A (A)  | 0.08 (0.15)  | A (A)  |
| Overall       | -- (--)  | -- (--) | 0.17 (0.22)       | D (D)  | 0.20 (0.25)  | D (D)  | 0.18 (0.23)       | D (D)  | 0.21 (0.26)  | D (D)  |

#### 8.4.1.6 Dixie Road / Old School Road

The Dixie Road / Old School Road currently operates under signalized control.

Under existing conditions, the intersection will operate with overall v/c ratios of 0.58 and 0.49, in the weekday morning and afternoon peak hours, respectively.

Under future background (2028) conditions, the intersection will operate with overall v/c ratios of 0.63 and 0.61, in the weekday morning and afternoon peak hours, respectively.

Under future total (2028) conditions, as the Proposed Development is fully developed, the intersection will operate with overall v/c ratios of 0.69 and 0.64, in the weekday morning and afternoon peak hours, respectively.

Under future background (2033) conditions, the intersection will operate with overall v/c ratios of 0.65 and 0.63, in the weekday morning and afternoon peak hours, respectively.

Under future total (2033) conditions, as the Proposed Development is fully developed, the intersection will operate with overall v/c ratios of 0.71 and 0.66, in the weekday morning and afternoon peak hours, respectively.

Based on the foregoing, no further improvements or mitigation measures are recommended at this intersection. Overall, it is projected that Site traffic can be accommodated at this intersection with minimal impacts.

**TABLE 18 DIXIE ROAD / OLD SCHOOL ROAD CAPACITY ANALYSIS RESULTS**

| Key Movements  | Existing           |              | 2028 Horizon Year  |              |                    |              | 2033 Horizon Year  |              |                    |              |
|----------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|--------------------|--------------|
|                |                    |              | Future Background  |              | Future Total       |              | Future Background  |              | Future Total       |              |
|                | V/C                | LOS          | V/C                | LOS          | V/C                | LOS          | V/C                | LOS          | V/C                | LOS          |
| EBL            | 0.13 (0.16)        | B (B)        | 0.22 (0.54)        | D (C)        | 0.23 (0.53)        | D (C)        | 0.22 (0.55)        | D (C)        | 0.22 (0.56)        | D (C)        |
| EBTR           | 0.75 (0.32)        | C (B)        | -- (--)            | -- (--)      | -- (--)            | -- (--)      | -- (--)            | -- (--)      | -- (--)            | -- (--)      |
| EBT            | -- (--)            | -- (--)      | 0.80 (0.23)        | D (C)        | 0.82 (0.23)        | E (C)        | 0.84 (0.23)        | E (C)        | 0.85 (0.24)        | E (C)        |
| EBR            | -- (--)            | -- (--)      | 0.05 (0.07)        | D (C)        | 0.05 (0.07)        | D (C)        | 0.05 (0.07)        | D (C)        | 0.05 (0.07)        | D (C)        |
| WBL            | 0.19 (0.16)        | B (B)        | 0.57 (0.64)        | C (C)        | 0.71 (0.80)        | D (D)        | 0.60 (0.60)        | C (C)        | 0.74 (0.77)        | D (D)        |
| WBTR           | 0.31 (0.71)        | C (C)        | 0.24 (0.81)        | A (D)        | 0.23 (0.79)        | A (D)        | 0.25 (0.83)        | A (D)        | 0.24 (0.83)        | A (D)        |
| NBL            | 0.03 (0.04)        | A (A)        | 0.24 (0.29)        | B (C)        | 0.28 (0.30)        | B (B)        | 0.25 (0.31)        | B (C)        | 0.29 (0.31)        | B (B)        |
| NBTR           | 0.21 (0.39)        | A (B)        | -- (--)            | -- (--)      | -- (--)            | -- (--)      | -- (--)            | -- (--)      | -- (--)            | -- (--)      |
| NBT            | -- (--)            | -- (--)      | 0.22 (0.53)        | B (C)        | 0.25 (0.58)        | B (C)        | 0.22 (0.54)        | B (C)        | 0.25 (0.59)        | B (C)        |
| NBR            | -- (--)            | -- (--)      | 0.04 (0.08)        | C (C)        | 0.04 (0.10)        | C (B)        | 0.04 (0.08)        | C (C)        | 0.04 (0.10)        | C (B)        |
| SBL            | 0.04 (0.01)        | A (A)        | 0.10 (0.06)        | B (B)        | 0.11 (0.10)        | B (B)        | 0.10 (0.06)        | B (B)        | 0.12 (0.10)        | B (B)        |
| SBTR           | 0.49 (0.33)        | B (A)        | -- (--)            | -- (--)      | -- (--)            | -- (--)      | -- (--)            | -- (--)      | -- (--)            | -- (--)      |
| SBT            | -- (--)            | -- (--)      | 0.56 (0.34)        | C (B)        | 0.62 (0.35)        | C (B)        | 0.57 (0.35)        | C (B)        | 0.63 (0.36)        | C (B)        |
| SBR            | -- (--)            | -- (--)      | 0.12 (0.04)        | B (B)        | 0.12 (0.04)        | B (B)        | 0.12 (0.04)        | B (B)        | 0.12 (0.04)        | B (B)        |
| <b>Overall</b> | <b>0.58 (0.49)</b> | <b>B (B)</b> | <b>0.63 (0.61)</b> | <b>C (C)</b> | <b>0.69 (0.64)</b> | <b>C (C)</b> | <b>0.65 (0.63)</b> | <b>C (C)</b> | <b>0.71 (0.66)</b> | <b>C (C)</b> |

## 8.4.2 Unsignalized Intersections

Unsignalized intersection capacity results have been summarized in **Table 19**. The area unsignalized intersections all operate at an LOS of C or better under all future total scenarios. Therefore, site traffic can be readily accommodated at the network unsignalized intersections.

**TABLE 19 UNSIGNALIZED INTERSECTION CAPACITY ANALYSIS RESULTS**

| Key Movements                                           | 2028 Horizon Year |             | 2033 Horizon Year |             |
|---------------------------------------------------------|-------------------|-------------|-------------------|-------------|
|                                                         | Future Total      |             | Future Total      |             |
|                                                         | LOS               | Delay (s)   | LOS               | Delay (s)   |
| <b>Dixie Road /12861 Dixie Road Site Access 1</b>       |                   |             |                   |             |
| WBR                                                     | C (C)             | 17.5 (17.0) | C (C)             | 17.5 (17.0) |
| <b>Old School Road / 12861 Dixie Road Site Access 2</b> |                   |             |                   |             |
| NBR                                                     | A (A)             | 9.6 (9.1)   | A (A)             | 9.7 (9.1)   |
| <b>Bramalea Road / Old School Road</b>                  |                   |             |                   |             |
| EBTLR                                                   | A (A)             | 16.6 (14.5) | A (A)             | 20.0 (15.8) |
| WBTLR                                                   | A (A)             | 12.2 (17.1) | A (A)             | 13.3 (20.7) |
| NBTLR                                                   | A (A)             | 11.2 (14.8) | A (A)             | 11.9 (16.7) |
| SBTLR                                                   | A (A)             | 12.2 (11.0) | A (A)             | 13.3 (11.6) |

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour).

## 8.5 QUEUING ANALYSIS

To determine the queueing impacts of the proposed development on the study area intersections, a queueing analysis was undertaken using SimTraffic 11 for all study scenarios.

For these analyses, a 15-minute seeding was used for 4 (4) x 15-minute recordings (total analysis of 1 hour). The analysis determined 95th percentile queue lengths for all intersection movements during the weekday morning and afternoon peak hours.

Due to the prevalence of medians along the majority of the corridors adjacent to the Site, queueing issues for all turning movements are expected to be minimal. While some 95th percentile queues extend beyond the assumed storage length, they typically do so within the effective taper lengths, allowing passengers to queue without obstructing the through lanes.

Critically, all movements operate at v/c ratios below 1.0, confirming that even when queues spill into the taper, they will full clear within each signal cycle.

**Table 20** summarizes the 95th percentile reported queueing lengths for key movements in both the weekday morning and weekday afternoon peak hours. Full SimTraffic results are shown in **Appendix I**.

**TABLE 20 95<sup>TH</sup> PERCENTILE SIMTRAFFIC QUEUE LENGTHS**

| Movement                                                                           | Storage Length (m) | 95 <sup>th</sup> Percentile Queue Lengths (metres) |                        |                   |                        |                   |
|------------------------------------------------------------------------------------|--------------------|----------------------------------------------------|------------------------|-------------------|------------------------|-------------------|
|                                                                                    |                    | Existing                                           | 2028 Future Background | 2028 Future Total | 2033 Future Background | 2033 Future Total |
| Dixie Road / Mayfield Road                                                         |                    |                                                    |                        |                   |                        |                   |
| EBL                                                                                | 140                | 132.3 (84.8)                                       | 153.5 (103.4)          | 155.7 (130.5)     | 142.8 (136.3)          | 159.6 (136.3)     |
| EBT                                                                                | --                 | 129.3 (81.9)                                       | 366.6 (107.5)          | 259.1 (150.6)     | 757.2 (99.6)           | 434.3 (472.6)     |
| EBR                                                                                | 105                | 86.5 (23.3)                                        | 8.3 (105.6)            | 79.3 (112.4)      | 44.4 (98.2)            | 148.8 (112.4)     |
| WBL                                                                                | 140                | 25.9 (22.5)                                        | 31.8 (21.2)            | 30.6 (20.8)       | 36.2 (72.4)            | 22.6 (97)         |
| WBT                                                                                | --                 | 93.8 (121.1)                                       | 121 (160)              | 133.3 (170.5)     | 120.9 (197.7)          | 116.6 (193)       |
| WBR                                                                                | 45                 | 77.2 (89.1)                                        | 79.2 (129)             | 85.2 (130)        | 85.8 (149.3)           | 79.5 (159.2)      |
| NBL                                                                                | 115                | 66.1 (72.5)                                        | 43.7 (131.1)           | 54.2 (100.1)      | 44.9 (75.7)            | 40 (103.7)        |
| NBT                                                                                | --                 | 59.1 (54.1)                                        | 59.1 (41.6)            | 61.2 (41.3)       | 62.7 (40.4)            | 57.1 (39.1)       |
| NBR                                                                                | 65                 | 19.6 (27.5)                                        | 28.7 (7.6)             | 27.3 (10.2)       | 10.3 (7.5)             | 16 (7.5)          |
| SBL                                                                                | 115                | 30.3 (28.8)                                        | 65.3 (81.9)            | 64.6 (73.2)       | 62.8 (91.1)            | 55.3 (105.2)      |
| SBT                                                                                | --                 | 68 (56.8)                                          | 53.7 (632.8)           | 52.1 (502.2)      | 71.7 (632.8)           | 75.6 (502.2)      |
| SBR                                                                                | 135                | 37.8 (56.8)                                        | 28.1 (224.8)           | 34.9 (224.8)      | 44.3 (224.8)           | 49.3 (224.8)      |
| Dixie Road / 12489 Dixie Road Site Access 2 / 12892 Dixie Road South Signal Access |                    |                                                    |                        |                   |                        |                   |

| Movement                               | Storage Length (m) | 95 <sup>th</sup> Percentile Queue Lengths (metres) |                        |                   |                        |                   |
|----------------------------------------|--------------------|----------------------------------------------------|------------------------|-------------------|------------------------|-------------------|
|                                        |                    | Existing                                           | 2028 Future Background | 2028 Future Total | 2033 Future Background | 2033 Future Total |
| EBL                                    | 20                 | 11.5 (13.5)                                        | 11.5 (20)              | 12.3 (19.3)       | 10.9 (24.8)            | 17.4 (24.8)       |
| EBTR                                   | --                 | 11.1 (22.3)                                        | 11.1 (18.4)            | 12.2 (23.7)       | 20.2 (29.1)            | 17.1 (29.1)       |
| WBL                                    | 20                 | 8.8 (8.3)                                          | 14.8 (14.8)            | 6 (18.1)          | 14.8 (21.5)            | 15.9 (21.5)       |
| WBTR                                   | --                 | 17.2 (37.3)                                        | 6 (37.3)               | 14.2 (14.2)       | 6 (23.4)               | 9.2 (23.4)        |
| NBL                                    | 60                 | 3.2 (2.5)                                          | 8.9 (4.5)              | 6 (7.5)           | 12.6 (7.6)             | 14.2 (7.6)        |
| NBT                                    | --                 | 47.3 (61)                                          | 12.4 (22.7)            | 6.9 (19.5)        | 26.9 (58.9)            | 33.6 (58.9)       |
| NBR                                    | 60                 | 0.6 (0)                                            | 0.6 (0)                | 0.3 (0)           | 2.9 (1.2)              | 0.5 (1.2)         |
| SBL                                    | 60                 | 3.7 (1)                                            | 9.4 (6)                | 7.1 (9.4)         | 6 (12.5)               | 6.5 (12.5)        |
| SBT                                    | --                 | 55.8 (44)                                          | 43.6 (158.4)           | 29.5 (505.3)      | 71.9 (356.4)           | 95.6 (356.4)      |
| SBR                                    | 60                 | 0 (0)                                              | 4.2 (0)                | 2.6 (46.3)        | 4.3 (0.3)              | 8.9 (0.3)         |
| <b>Dixie Road / Old School Road</b>    |                    |                                                    |                        |                   |                        |                   |
| EBL                                    | 75                 | 40.9 (13.5)                                        | 26 (35.4)              | 22.5 (34.9)       | 28.5 (32)              | 30 (40.3)         |
| EBT                                    | --                 | 80.1 (39.2)                                        | 94.4 (40.4)            | 110.5 (40.3)      | 86.4 (39.1)            | 126.1 (40.4)      |
| EBR                                    | 75                 | 21.3 (18.6)                                        | 28.2 (21.4)            | 21.3 (19.6)       | 18.6 (16.7)            | 26.1 (17.3)       |
| WBL                                    | 65                 | 15.4 (18.1)                                        | 23.3 (51.6)            | 15.1 (53.7)       | 32.1 (51.4)            | 15.1 (52.7)       |
| WBTR                                   | --                 | 29.6 (53.4)                                        | 19 (75.5)              | 21.3 (77.2)       | 21.5 (76.7)            | 21.5 (70.4)       |
| NBL                                    | 75                 | 12 (9.5)                                           | 25.3 (67.1)            | 36 (69.3)         | 29.7 (58.1)            | 33.5 (69.3)       |
| NBT                                    | --                 | 47.5 (61.3)                                        | 40.2 (118.4)           | 50.7 (116.5)      | 35.6 (144.6)           | 45.9 (113.9)      |
| NBR                                    | 50                 | 12.8 (9.8)                                         | 9.8 (48.1)             | 12.8 (49.8)       | 9.2 (79.7)             | 11.1 (17.5)       |
| SBL                                    | 75                 | 18.7 (5.2)                                         | 18.6 (15.3)            | 14.9 (14.4)       | 18.7 (20.8)            | 25.1 (30.2)       |
| SBT                                    | --                 | 55.8 (44)                                          | 102.2 (89.5)           | 85.9 (76.1)       | 112.7 (72.7)           | 128.1 (71.3)      |
| SBR                                    | 75                 | 17.9 (13.7)                                        | 17.9 (17.1)            | 16.9 (15.7)       | 13.7 (9.6)             | 19.6 (15.1)       |
| <b>Bramalea Road / Old School Road</b> |                    |                                                    |                        |                   |                        |                   |
| EBLTR                                  | --                 | 28.2 (16.9)                                        | 45.2 (22.7)            | 48.5 (26.1)       | 40 (32.3)              | 43.6 (32.3)       |
| WBLTR                                  | --                 | 17.3 (17.3)                                        | 22.4 (25.5)            | 28 (52.4)         | 22.8 (48.1)            | 26.6 (48.1)       |
| NBLTR                                  | --                 | 19.3 (19.3)                                        | 19.4 (21.7)            | 21.9 (33.1)       | 16.9 (22.9)            | 20.9 (22.9)       |
| SBLTR                                  | --                 | 16.9 (13.7)                                        | 29.1 (17)              | 22.1 (18.2)       | 22.9 (15.5)            | 30.2 (15.5)       |



## 9.0 SIGNAL WARRANT

A signal warrant analysis was completed for the proposed new intersection within the study network. Specifically, the warrant reviewed the Site driveway intersection on Dixie Road. The warrant was conducted based on the methodologies outlined in Ontario Traffic Manual (OTM) Book 12. Signal warrant calculation sheets are attached in **Appendix J**.

The 8-hour vehicular traffic for the proposed intersection was projected based on existing peak 8-hour temporal vehicular data, collected by Spectrum Traffic Data Inc. on June 1<sup>st</sup>, 2022 at the Dixie Road / Mayfield Road, and forecasted future total traffic for each horizon year. Site vehicular traffic was forecasted based on 24-hour temporal data collected by BA Group at Industrial proxy sites.

The following intersection was assessed as part of the signal warrant analysis:

- Dixie Road / Site Access 2 / 12892 Dixie Road South Signal Access

The signal warrant analysis was undertaken using the free flow criteria outlined in the OTM.

## 9.1 SIGNAL WARRANT RESULTS

The proposed signalized intersection has been assessed based on Justifications 1, 2, 3, and 7 of the OTM signal warrant procedure.

A summary of the outcome of the signal justification analysis for the 2028 horizon year is summarized in **Table 21**. As the volumes remain unchanged between the 2028 and 2033 horizon years along Dixie Road north of Mayfield Road, only 2028 scenarios were analyzed for the accesses along Dixie Road

**TABLE 21 FREE FLOW SIGNAL WARRANT ANALYSIS – 2028 FUTURE TOTAL TRAFFIC**

| Intersection                                                               | Justification 1 –<br>Min. Vehicular Volume |     | Justification 2 –<br>Delay to Cross Traffic |     | Justification 3 –<br>Combination |     | Justification 7 –<br>Projected Volumes |     |     | Justified? |
|----------------------------------------------------------------------------|--------------------------------------------|-----|---------------------------------------------|-----|----------------------------------|-----|----------------------------------------|-----|-----|------------|
| Dixie Road / Site<br>Access 2 / 12892<br>Dixie Road South<br>Signal Access | 1A                                         | 92% | 2A                                          | 90% | 1                                | 73% | 1                                      | 97% | 11% | NO         |
|                                                                            | 1B                                         | 73% | 2B                                          | 94% | 2                                | 90% | 2                                      | 94% | 87% |            |
|                                                                            | Not Warranted                              |     | Not Warranted                               |     | Not Warranted                    |     | Not Warranted                          |     |     |            |

## 9.2 SIGNAL WARRANT ANALYSIS SUMMARY

The signal warrant analysis indicates that a traffic signal along Dixie Road / Site Access 2 / 12892 Dixie Road South Signal Access is not warranted under future total conditions by the 2033 horizon year according to the free flow warrant procedure. Signalization at Dixie Road / Site Access 2 / 12892 Dixie Road South Signal Access is not required as per the warrant criteria, although is close to being warranted under Justification 2. However, a traffic signal is desirable to improve the multiple existing and anticipated concerns within the network.

As the area network is proposed to be an industrial corridor, the area is expected to experience unique traffic patterns characterized by the movement of large vehicles, such as trucks and industrial equipment, which may not align with signal warrant threshold criteria. In such cases, a signal can enhance safety by regulating the flow of both vehicular and pedestrian traffic, minimizing the risk of collisions, and facilitating the smooth movement of traffic. Implementing a signal at this intersection can optimize traffic management, reduce delays, and enhance overall accessibility. Ultimately, prioritizing safety and efficiency in such an industrial corridor, even when signal warrants are not met, reflects a proactive approach to traffic management.

As such, it is recommended that the traffic signal at the intersection be installed before the full build-out of the Site to accommodate the vehicular demand and reduce conflicts between vehicles and other modes of travel, accommodate anticipated vehicular delays associated with all future development, and further improve site circulation safety due to better regulate access to Dixie Road to and from the Site.

## 10.0 LEFT TURNING LANE WARRANTS

Turning lane warrants have been undertaken by BA Group to confirm the need for left turn lanes at the Site accesses intersecting with Dixie Road.

### **Dixie Road / Site Access 2 / 12892 Dixie Road South Signal Access**

In the 2033 scenario (after overall development has been fully constructed), the Dixie Road / Site Access 2 / 12892 Dixie Road South Signal Access intersection has a peak hour volume up to 50 vehicles per hour completing a left turn from the north on Dixie Road into the Site and 25 to 50 inbound vehicles completing a right turn into the Site from the south on Dixie Road during the morning and afternoon peak hours, respectively.

A left lane warrant analysis was undertaken to confirm a left turn lane for the base scenario as per MTO Geometric Design Standards for Ontario Highways.

The volumes at the intersection indicate that a southbound left turn lane is warranted under MTO guidelines.. Notwithstanding, the Dixie Road ESR accounts for the potential inclusion of left turn turning lanes as the necessary width is available within the designs. It is therefore recommended that a left turn lane be introduced into the future road network to improve the delays for all horizon years.

Left turn lane warrant sheets are attached in **Appendix K**.

## 11.0 TRANSPORTATION DEMAND MANAGEMENT (TDM)

### 11.1 TDM PLAN STRATEGIES

#### 11.1.1 Overview

Based upon the Site context and proposed land uses, recommended TDM strategies are summarized in **Table 22**.

**TABLE 22 RECOMMENDED SITE TDM MEASURES**

| Measure            | Description                                                                                                                                                                         | Cost Estimate                            | Implementation Strategy                  |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|
| Carpool            | Encourage tenants to create and promote internal carpool program                                                                                                                    | TBD                                      | Owner to encourage tenant upon occupancy |
|                    | Encourage tenants to include Emergency Ride Home (provide taxi chit up to a dollar amount for employees when carpool plans fall through due to an emergency)                        | TBD                                      | Owner to encourage tenant upon occupancy |
|                    | Encourage tenants to run carpool promotional campaigns                                                                                                                              | TBD                                      | Owner to encourage tenant upon occupancy |
|                    | Include designated signed carpool spots within the Site parking facilities.                                                                                                         | TBD                                      | Owner to encourage tenant upon occupancy |
| Transit Incentives | Building management to provide transit information package to new employees                                                                                                         | TBD                                      | Upon occupancy                           |
|                    | Provide convenient, high-quality and accessible pedestrian connections oriented towards adjacent transit stop facilities.                                                           | Integrated into overall development cost | Construct as part of development         |
| Walking Incentives | Provide safe pedestrian-scale connections from the Site to the surrounding public street network, such as the proposed signalization of the Site access driveways along Dixie Road. | Integrated into overall development cost | Construct as part of development         |
|                    | Maintain on-site pedestrian facilities to enable year-round pedestrian access and usage.                                                                                            | TBD                                      | Upon occupancy                           |
|                    | Enhance the quality of the public realm through provision of pedestrian-scale landscaping and appropriate sidewalk widths.                                                          | Integrated into overall development cost | Construct as part of development         |

#### 11.1.2 Carpool Incentives

In an effort to increase the viability and attractiveness of carpooling, a number of carpool incentives are recommended as outlined below.

- **Internal carpool program:** The implementation and promotion of an internal carpool program would increase the visibility of carpooling as an alternative, whilst also facilitating and improving the viability

of carpooling by assisting with carpool matching. Tenants will be encouraged to establish an internal carpool program in accordance with the above.

- **Emergency Ride Home:** The implementation of an emergency ride home program increases the attractiveness of carpooling as a mode by addressing one of the potential issues that can arise when carpooling. Tenants will be encouraged to have taxi chits be made available (up to a dollar amount) for employees when carpool plans fall through due to an emergency.
- **Promotional Campaign:** The implementation of promotional carpool campaigns such as carpool to work weeks with reward incentives, will encourage the tenants of the building to explore carpooling as an alternative. Tenants will be encouraged to establish promotional carpool campaigns in accordance with the above. Carpool signs would be additionally placed on 10 parking spaces to further encourage employee carpooling.

### 11.1.3 Transit Incentives

In an effort to increase the viability and attractiveness of transit, a number of transit incentives are recommended as outlined below.

- **Transit information package:** The provision of a transit information package to new employees will educate them on the available services in the area and increase the visibility of transit as an alternative. Building management to provide a transit information package to employees upon occupation.
- **Pedestrian connections to transit:** Convenient, high quality and accessible pedestrian connections towards adjacent transit stop facilities improve the ease of using transit and supplements transit as a viable mode.
- **Transit-oriented signalization:** Installing signals at intersections in proximity to transit stops to safeguard pedestrians, particularly during peak commuter arrivals and departures, ensures safe crossing to access the site or transit facilities.
- **Active-transportation oriented signalization:** Signalization of the Old School Road site access intersection improves pedestrian and cycling safety and connectivity to the multi-use paths on Dixie Road and Mayfield Road.

### 11.1.4 Walking Incentives

To increase the viability and attractiveness of walking as a mode, several walking incentives are recommended as outlined below.

- **Pedestrian connections to street network:** Providing safe pedestrian-scale connections from the Site to the surrounding public street network increases the attractiveness and viability of walking as a transportation mode.
- **Maintenance of on-site pedestrian facilities:** On-site pedestrian facilities will be maintained year-round to enable year-round pedestrian access and usage.
- **Pedestrian-scale landscaping and sidewalk widths:** It is proposed to enhance the quality of the public realm through the provision of pedestrian-scale landscaping and appropriate sidewalk widths, increasing the attractiveness of walking as a transportation mode.
- **Signalization of high-activity intersections:** Signalization of several site access intersections within proximity of transit stops to increase pedestrian safety and connectivity to the external sidewalk network.

## 12.0 SUMMARY AND CONCLUSIONS

### General

1. The Proposed Development contemplates the development of the Site for the purpose of three new industrial buildings with an overall floor area of 136,576 square metres.
2. A total of 1,611 car parking spaces (including 40 accessible parking spaces) are proposed across the Site, located at grade. The proposed parking provision also includes provision of 24 electric vehicle (EV) spaces.
3. A loading zone is proposed at the rear of the building, comprising a total of up to 252 potential loading docks
4. Barrier-free/accessible pedestrian access is proposed to both Dixie Road.

### Car Parking

5. Application of the comprehensive Town of Caledon Zoning By-Law 2006-50 industrial car parking standards results in a requirement to provide a minimum of 1,032 parking spaces.
6. The proposed provision of 1,606 car parking spaces exceeds the requirements of the Town of Caledon Zoning By-Law 2006-50.
7. A total of 40 accessible car parking spaces are proposed, which meets the requirements of the Town of Caledon By-Law 2015-058.
8. Whilst not a requirement, the proposed car parking supply also includes a provision of 24 electric vehicle (EV) spaces.

### Loading and Servicing

9. Application of Zoning By-Law 2006-50 loading standards to the Proposed Development requires a total of 22 loading spaces.
10. A total of 249 potential loading docks and are proposed at the rear of the building. The proposed provision exceeds the requirements of the Town of Caledon Zoning By-Law 2006-50. Given the proposed warehouse land use, the potential loading provision is based upon meeting market requirements for typical warehouse tenants.

### Vehicle Traffic

11. The overall development programme is anticipated to generate approximately 230 and 205 two-way vehicle trips during the AM and PM peak hours respectively.

## **Traffic Operations**

12. Under existing conditions, all area signalized intersections currently operate acceptably during the weekday morning and afternoon peak hours.
13. With the addition of background traffic, under the horizon years of 2028 and 2033, the area signalized intersections continue to operate acceptably during the weekday morning and afternoon peak hours.
14. With the build-out of the Proposed Development, under the future horizon years of 2028 and 2033, the area signalized intersections will continue to operate acceptably during the weekday morning and afternoon peak hours.
15. The analysis results are an improvement over the forecasted 2033 (with improvements) scenario capacity results outlined within the Dixie Road Environmental assessment, which forecast an overall v/c ratio of 1.39, with multiple individual movements above 1.0.
16. Queuing analysis was undertaken using SimTraffic for all study intersections. Queueing issues for all turning movements are expected to be minimal. While some 95<sup>th</sup> percentile queues extend beyond the assumed storage length, they typically do so within the effective taper lengths, allowing passengers to queue without obstructing the through lanes. Critically, all movements operate at v/c ratios below 1.0, confirming that even when queues spill into the taper, they will full clear within each signal cycle.
17. It is recommended that the traffic signals at the Dixie Road / Site Access 2 / 12892 Dixie Road South Signal Access intersection be installed before the full build-out of the Site to accommodate the vehicular demand and reduce conflicts between vehicles and other modes of travel, accommodate anticipated vehicular delays associated with all future development, and further improve site circulation safety due to better regulate access to Dixie Road to and from the Site.

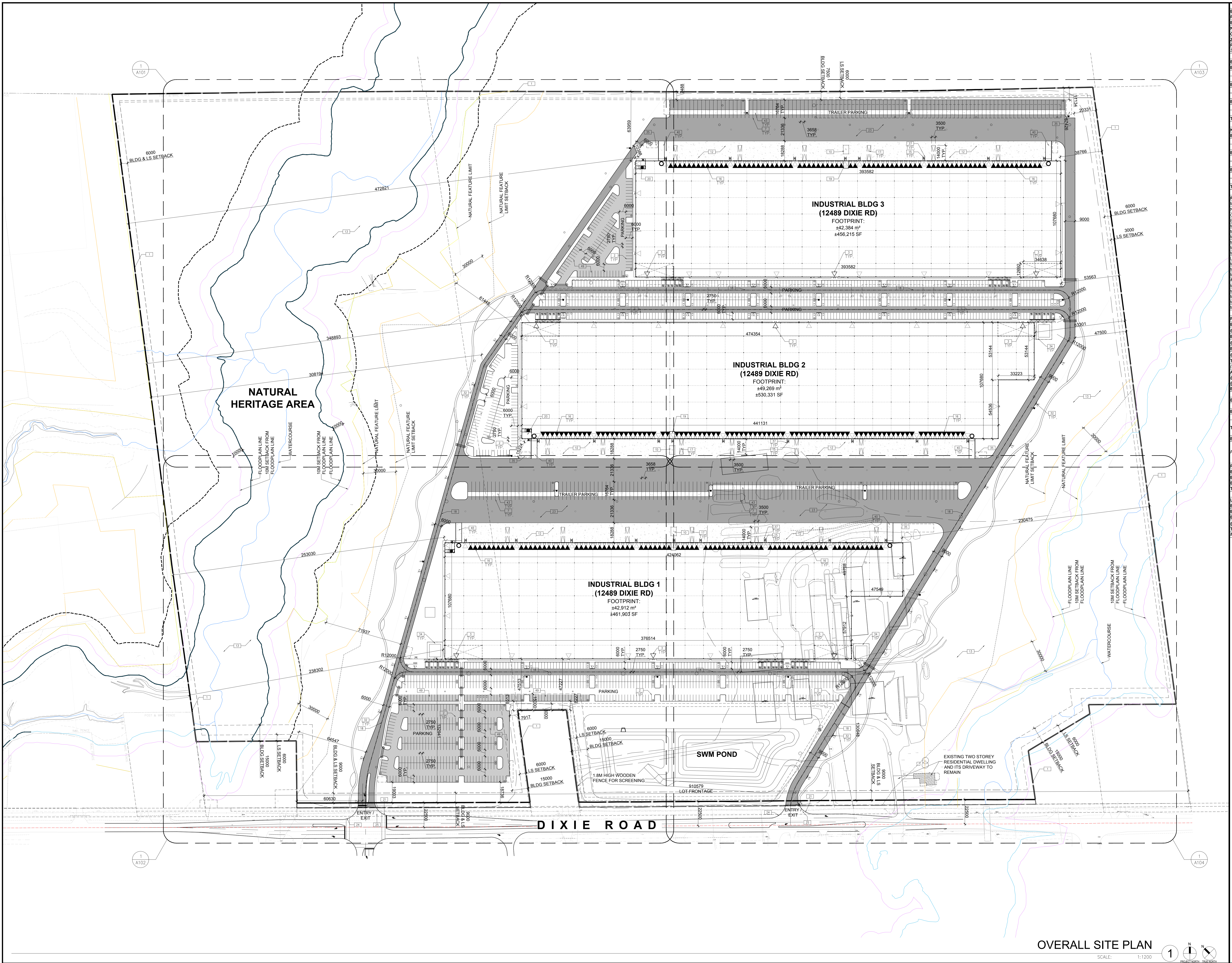
## **Transportation Demand Management**

18. A Transportation Demand Management (TDM) Plan has been prepared which strives to reduce automobile use.
19. Recommended TDM measures include the following:
  - Encourage tenant to create and promote an internal carpool program;
  - Encourage tenant to create Emergency Ride Home program;
  - Encourage tenant to create carpool promotional campaigns;
  - Building management to provide transit information packages;
  - Provide pedestrian connections to sidewalks;
  - Provide pedestrian connections to the surrounding road network;
  - Maintain on-site pedestrian facilities year-round; and
  - Enhance public realm through provision of pedestrian scale landscaping.

## **APPENDIX A:**

### **Reduced Architectural Drawings (Not to Scale) and Signage Plans**





GENERAL NOTES

- PROPERTY LINE
- 2750x6000 PARKING STALL, PAINTED PARKING STRIPING PER CITY STANDARDS, WITH 6M WIDE DOUBLE LOADED AISLE.
- PRINCIPLE ENTRY - TENANT FIT-UP SUBJECT TO INTERIOR ALTERATION PERMIT
- TYPICAL SHARED ACCESSIBLE PARKING STALLS, PAINTED PARKING STRIPING PER CITY STANDARDS, TO HAVE (2) TYPE B (2750x6000), (2) TYPE A STALLS (3400x6000), OR ONE OF EACH WITH 1500mm PATH STRIP BETWEEN - REFER TO TOWN OF CALEDON'S ACCESSIBLE PARKING STANDARDS.
- 150mm WIDE CURB TYPICAL
- MIN. 1500mm WIDE SIDEWALK TYPICAL U.N.O
- TRAILER PARKING STALL - 12'-0" x 55'-0"
- ACCESSIBLE CURB RAMP AS PER DETAIL
- FIRE DEPARTMENT CONNECTION / SIAMSE
- PROPOSED LOCATION OF TRANSFORMER C/W CONCRETE PAD 1.8m HIGH BLACK VINYL CHAIN LINK FENCING OR APPROVED EQUAL, ALONG DEVELOPMENT LIMIT BOUNDARY
- CONCRETE APRON
- LANDSCAPE AREA - SEE LANDSCAPE DWGS.
- PEDESTRIAN RAIL (1070mm HIGH) SET INTO RETAINING WALL WHERE GRADE CHANGE GREATER THAN 600mm. PROVIDE CONCRETE-FILLED STEEL BOLLARD AT END OF RETAINING WALL - SEE CIVIL DWGS.
- EXTERIOR STEEL STAIRS W/ TUBE STEEL GUARDRAIL, TYP.
- TRUCK LOADING DOCK (TYPICAL)
- LOADING SPACE - L.S. (MIN. 3.5m x 14.0m)
- FIRE ACCESS ROUTE W/ 12M TURNING RADIUS
- PROPOSED ELECTRICAL ROOM
- PROPOSED MECHANICAL ROOM
- CURB RADI. AT ENTRANCES WITHIN MUNICIPAL SIDEWALK LIMITS TO CONFORM TO OPSD 350.010 - SEE CIVIL DWGS.
- 1.8M WIDE PAINTED PEDESTRIAN PATHWAY
- HATCHED AREA DENOTES HEAVY DUTY ASPHALT. TYPICAL FOR ALL AREAS REQUIRING FIRE TRUCK OR TRACTOR TRUCK ACCESS.
- 15.0m CENTERLINE RADIUS DISTANCE TO FIRE ACCESS ROAD
- ROAD CURB AND SIDEWALK TO BE CONTINUOUS THROUGH THE DRIVEWAY. DRIVEWAY GRADE TO BE COMPATIBLE WITH EXIST. SIDEWALK AND A CURB DEPRESSION WILL BE PROVIDED FOR AT EACH ENTRANCE.
- INVERTED U-SHAPE GALVANIZED BICYCLE RACKS
- MIN. 1.8Mx0.6M PER SPACE
- PROPOSED STOP SIGN LOCATION
- PRESSED PATTERNED ASPHALT PEDESTRIAN PATHWAY
- YELLOW PAINTED LINES
- RETAINING WALL
- PRECAST SCREEN WALL TO BE INSTALLED ON TOP OF RETAINING WALL - REFER TO STRUC. DWGS.
- RESERVED
- PROPOSED AMENITY AREA
- SNOW STORAGE, ON SITE AT 2% TOTAL SITE AREA
- PROPOSED CHAIN-LINK FENCE
- CONCRETE/STEEL SAFETY BOLLARD
- SCREEN WALL
- PROPOSED PYLON SIGNAGE
- DRIVE-IN RAMP WITH GALVANIZED GUARDRAIL ON EACH SIDE. SEE CIVIL DWGS FOR SLOPE %
- RESERVED
- DETECTIBLE TACTILE WARNING SURFACE, CONFORMING TO 2012 O.B.C.
- MIN. 3m WIDE CONCRETE DOLLY PAD AT TRAILER STALLS
- ACCESSIBLE PARKING GRADE SLOPING UP TO MEET PROPOSED CURB LEVEL
- PROPOSED 1.8M HIGH WOODEN FENCE. REFER LANDSCAPE DWGS.
- WASTE COLLECTION STAGING AREA, TO BE USED TO TEMPORARILY PLACE BINS FOR GARBAGE COLLECTION
- TRUCK WHEEL STOP. REFER TO DETAIL #14/A105
- BIKE REPAIR STATION - REFER LANDSCAPE
- LIGHT COLOURED PAVEMENT TO HAVE INITIAL SOLAR REFLECTANCE OF AT LEAST 0.33 OR AN SPR OF 29

SITE LEGEND

- NEW HEAVY DUTY PAVEMENT (HATCHED)
- LIGHT COLOURED PAVEMENT TO HAVE INITIAL SOLAR REFLECTANCE OF AT LEAST 0.33 OR AN SPR OF 29
- LANDSCAPE AREA
- DETECTIBLE TACTILE WARNING SURFACE, CONFORMING TO 2012 O.B.C.
- FIRE ACCESS ROUTE WITH 12.5M TURNING RADIUS
- TRUCK LOADING DOCK DOOR
- KNOCK OUT PANEL
- MAN DOOR ENTRY
- EXIT DOOR LOCATION
- FIRE DEPT CONNECTION (VERIFY LOCATION WITH CIVIL DRAWINGS)
- PROPOSED FIRE HYDRANT (VERIFY LOCATION WITH CIVIL DRAWINGS)
- EXISTING FIRE HYDRANT (VERIFY LOCATION WITH CIVIL DRAWINGS)
- D.C. 1500MM WIDE DEPRESSION CURB FOR ACCESSIBLE PARKING AND PEDESTRIAN ACCESS - REFER TO DETAIL 4/A1.2
- PROPOSED CATCH-BASIN
- PAINTED CARPOOL PARKING SPACE SYMBOL
- BARRIER FREE PARKING SIGN
- BARRIER FREE PARKING SIGN WITH VAN TAB
- DRIVE-IN DOOR
- NEW STOP SIGN
- NEW FIRE ROUTE SIGN
- GAS METER & PRESSURE REGULATING STATION BY GAS COMPANY
- LIGHT FIXTURES, REFER ELECTRICAL DWG FOR DETAILS
- LIGHT POLES, REFER ELECTRICAL DWG FOR DETAILS
- DENOTES MANHOLE
- EXISTING HYDRO POLE

| SITE STATISTICS                                                  |                                           |                                | A1            |
|------------------------------------------------------------------|-------------------------------------------|--------------------------------|---------------|
| Existing Zoning Category                                         | Proposed Zoning Category                  | Group F3 (O.B.C. A-3.1.2.1.11) | MP            |
| Building Classification                                          | NET DEVELOPABLE AREA                      | 3,445,017 SF                   | 303,052.83m²  |
| NET DEVELOPABLE AREA                                             | GROSS SITE AREA                           | 6,257,235 SF                   | 581,316.71m²  |
| Zone Permitted Use (Town of Caledon Zoning By-law 2006-50)       | Proposed Use                              | Industrial                     |               |
| Section 8.3 - Zoning Standards - MP Zone                         |                                           |                                |               |
| BUILDING AREA:                                                   |                                           |                                |               |
| BUILDING 1                                                       | Warehouse Area                            | 461,902 SF                     | 42,912.18 m²  |
| BUILDING 1                                                       | Office Area                               | 452,438 SF                     | 42,032.94 m²  |
| BUILDING 2                                                       | Warehouse Area                            | 8,464 SF                       | 879.24 m²     |
| BUILDING 2                                                       | Office Area                               | 530,331 SF                     | 49,269.39 m²  |
| BUILDING 3                                                       | Warehouse Area                            | 530,962 SF                     | 49,461.76 m²  |
| BUILDING 3                                                       | Office Area                               | 9,339 SF                       | 867.64 m²     |
| BUILDING 3                                                       | Warehouse Area                            | 446,214 SF                     | 42,383.74 m²  |
| BUILDING 3                                                       | Office Area                               | 446,750 SF                     | 41,504.50 m²  |
| BUILDING 3                                                       | Office Area                               | 9,464 SF                       | 879.24 m²     |
| TOTAL BUILDING AREA                                              |                                           | 1,445,447.62 m²                | 134,585.32 m² |
| NET FLOOR AREA:                                                  |                                           |                                |               |
| BUILDING 1                                                       | Floor Area                                | 460,852 SF                     | 42,814.63 m²  |
| BUILDING 1                                                       | Floor Area under services, M&E rooms etc. | 461,902 SF                     | 42,912.18 m²  |
| BUILDING 2                                                       | Floor Area                                | 1,000 SF                       | 92.9 m²       |
| BUILDING 2                                                       | Floor Area under services, M&E rooms etc. | 530,331 SF                     | 49,269.39 m²  |
| BUILDING 3                                                       | Floor Area                                | 446,214 SF                     | 42,383.74 m²  |
| BUILDING 3                                                       | Floor Area under services, M&E rooms etc. | 446,750 SF                     | 41,504.50 m²  |
| BUILDING 3                                                       | Floor Area                                | 446,214 SF                     | 42,383.74 m²  |
| BUILDING 3                                                       | Floor Area under services, M&E rooms etc. | 446,750 SF                     | 41,504.50 m²  |
| TOTAL NET AREA                                                   |                                           | 1,445,297.62 m²                | 134,272.87 m² |
| Requirements                                                     |                                           |                                |               |
| Min. Lot Area                                                    | Proposed                                  | 581,316.71m²                   | 925.00m²      |
| Net Floor Area                                                   | Proposed                                  | 134,272.87m²                   | -             |
| Gross Floor Area                                                 | Proposed                                  | 134,585.32m²                   | -             |
| Building Area                                                    | Proposed                                  | 23.15%                         | 50.00%        |
| Min. Lot Frontage (m)                                            | Proposed                                  | 910.58                         | 30.00         |
| Min. Front Yard Building Setback (m)                             | Proposed                                  | 130.85                         | 9.00          |
| Min. Int. Side (N) Yard Building Setback (m)                     | Proposed                                  | 238.30                         | 6.00          |
| Min. Int. Side (S) Yard Building Setback (m)                     | Proposed                                  | 38.77                          | 6.00          |
| Min. Int. Side Yard Building Set back (m) - Abutting Residential | Proposed                                  | 47.33                          | 15.00         |
| Min. Rear Yard Building Setback (m)                              | Proposed                                  | 63.96                          | 18.00         |
| Min. Landscape Area (% of Lot Area)                              | Proposed                                  | 23.15%                         | 50.00%        |
| Maximum Building Height (m) - Building 1                         | Proposed                                  | 14.50                          | 7.50          |
| Maximum Building Height (m) - Building 2                         | Proposed                                  | 14.50                          | 18.00         |
| Min. Landscape Area (% of Lot Area)                              | Proposed                                  | 54.57%                         | 10.00%        |
| Min. Landscape Area (SM)                                         | Proposed                                  | 317,244.45m²                   | 58,137.67m²   |
| Min. Front Landscape Buffer (m)                                  | Proposed                                  | 23.43                          | 9.00          |
| Min. Int. (N) Side Landscape Buffer (m)                          | Proposed                                  | 64.55                          | 6.00          |
| Min. Int. (S) Side Landscape Buffer (m)                          | Proposed                                  | 20.33                          | 3.00          |
| Min. Rear Landscape Buffer (m)                                   | Proposed                                  | 7.49                           | 6.00          |
| Min. Landscape Buffer (m) - Abutting EPA > 5m width              | Proposed                                  | 61.45                          | -             |
| Parking Calculations                                             |                                           |                                |               |
| BUILDING 1                                                       | Proposed                                  | 797                            | 333           |
| BUILDING 2                                                       | Proposed                                  | 414                            | 370           |
| BUILDING 3                                                       | Proposed                                  | 400                            | 329           |
| Total no. of Accessible Parking Spaces                           | Proposed                                  | 1611                           | 1032          |
| EV Parking Spaces                                                |                                           |                                |               |
| BUILDING 1                                                       | Proposed                                  | 18                             | 9             |
| BUILDING 2                                                       | Proposed                                  | 12                             | 9             |
| BUILDING 3                                                       | Proposed                                  | 10                             | 9             |
| Total no. of Accessible Parking Spaces                           | Proposed                                  | 40                             | 27            |
| EV Parking Spaces                                                |                                           |                                |               |
| BUILDING 1                                                       | Proposed                                  | 60                             | -             |
| BUILDING 2                                                       | Proposed                                  | 98                             | -             |
| BUILDING 3                                                       | Proposed                                  | 219                            | -             |
| Loading Space Calculations                                       |                                           |                                |               |
| BUILDING 1                                                       | Proposed                                  | 85                             | 7             |
| BUILDING 2                                                       | Proposed                                  | 87                             | 7             |
| BUILDING 3                                                       | Proposed                                  | 77                             | 7             |
| Total no. of Loading Spaces                                      | Proposed                                  | 249                            | 21            |
| Min. Loading Space Dimensions                                    | Proposed                                  | 3.5m(W) X 14.0m(L) X 3.35m(H)  | -             |

QUADREAL PROPERTY GROUP

TOWN OF CALEDON DIXIE ROAD  
12489 DIXIE ROAD  
CALEDON, ONTARIO CANADA

OVERALL SITE PLAN

| DATE       | ISSUED FOR APPROVAL | REMARKS |
|------------|---------------------|---------|
| 2023-12-02 | ISSUED FOR APPROVAL |         |
| 2023-12-02 | ISSUED FOR APPROVAL |         |
| 2023-12-02 | ISSUED FOR APPROVAL |         |
| 2023-12-02 | ISSUED FOR APPROVAL |         |
| 2023-12-02 | ISSUED FOR APPROVAL |         |
| 2023-12-02 | ISSUED FOR APPROVAL |         |

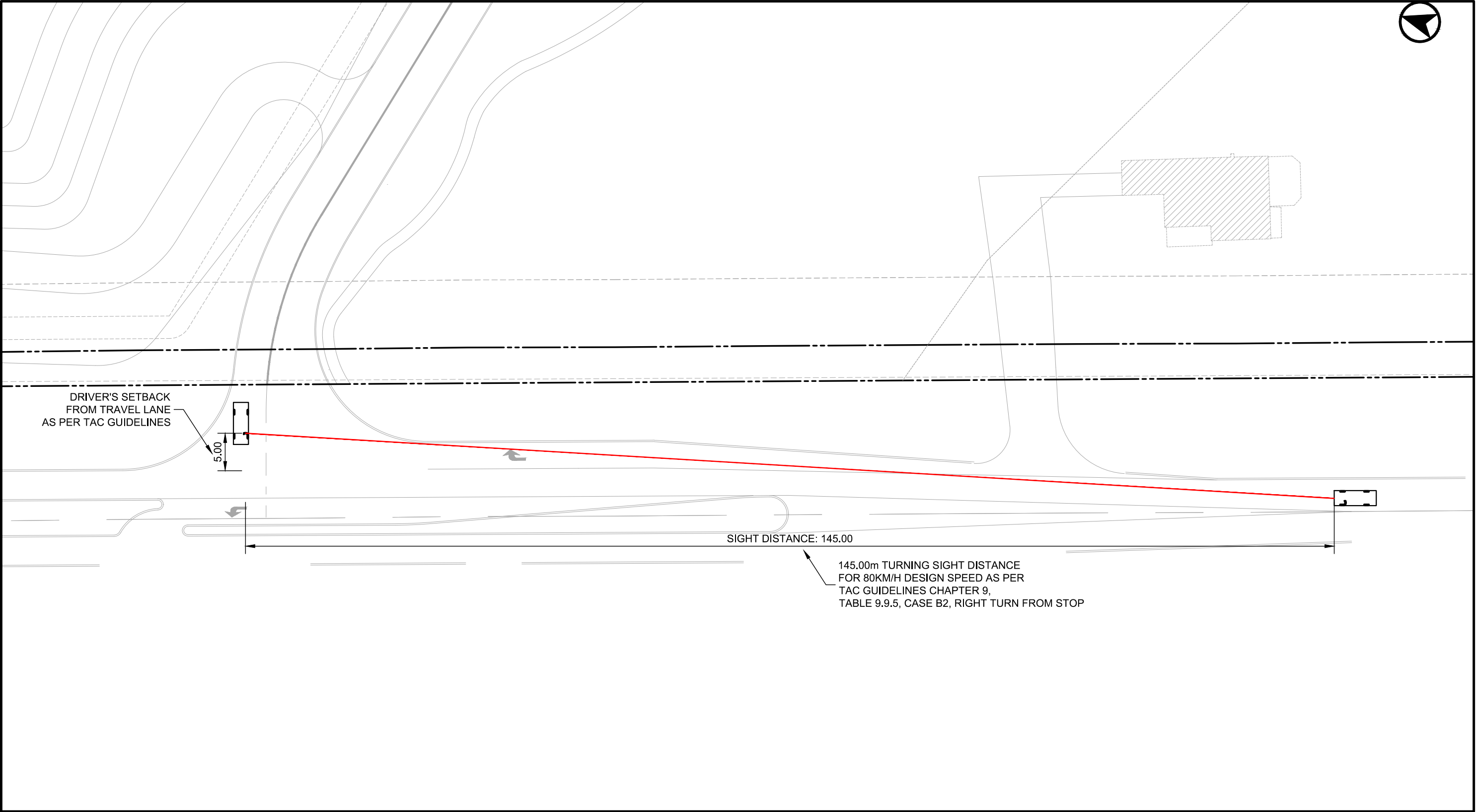
|           |              |
|-----------|--------------|
| PA/PM:    | SK           |
| DRAWN BY: | JS           |
| JOB NO.:  | TOR22-011-00 |

SHEET  
A100



## **APPENDIX B: Sight Line Requirements**

Date Plotted: July 23, 2025    Filename: J:\7843-21\BAS\Sight Line Review\R01-July 23-2025\BA-Dixie Rd Industrial-SL-July 23-25-F01-7843-21.dwg



12489 DIXIE ROAD  
SIGHT LINE REVIEW  
DIXIE ROAD SOUTHERN RIGHT-IN/RIGHT-OUT DRIVEWAY

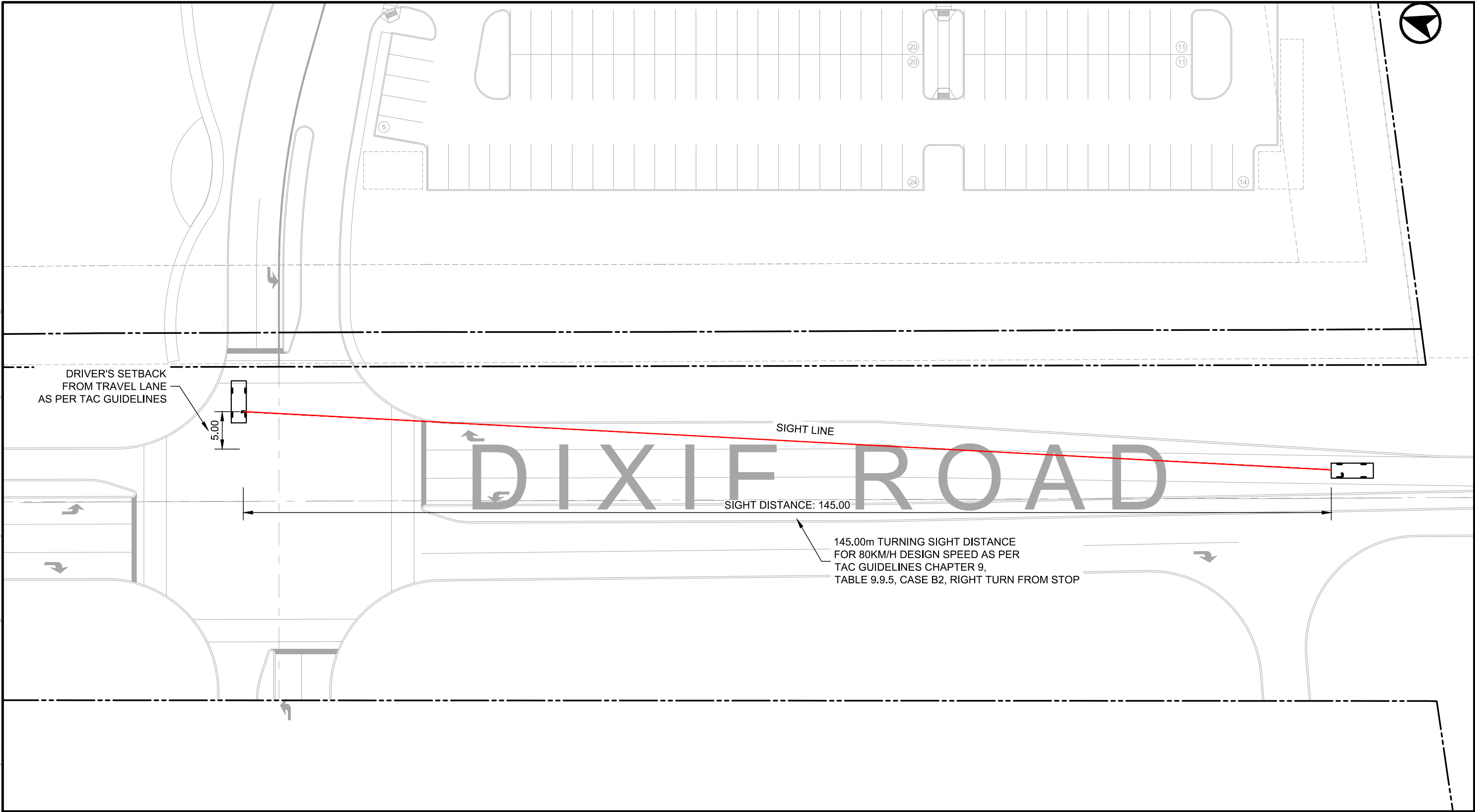
Project: DIXIE INDUSTRIAL  
Project No. 7843-21  
Date: DECEMBER 4, 2024  
Revised: JULY 23, 2025

Scale 1:500

0 5 10 15 20m

Drawing No. SL-01

Date Plotted: July 23, 2025    Filename: J:\7843-21\BAS\Sight Line Review\R01-July 23-2025\BA-Dixie Rd Industrial SL-July 23-25-R01-7843-21.dwg



12489 DIXIE ROAD  
SIGHT LINE REVIEW  
DIXIE ROAD NORTHERN ALL-MOVES DRIVEWAY

Project: DIXIE INDUSTRIAL  
Project No. 7843-21  
Date: DECEMBER 4, 2024  
Revised: JULY 23, 2025

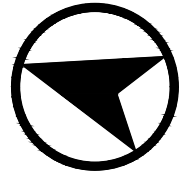
Scale 1:500

0 5 10 15 20m

Drawing No. SL-02

## **APPENDIX C: Functional Design**





|    |          |     |                        |
|----|----------|-----|------------------------|
| 03 | 03-11-25 | MSB | ISSUED FOR TEAM REVIEW |
| 02 | 12-12-23 | MSB | ISSUED FOR SUBMISSION  |
| 01 | 11-28-22 | MSB | ISSUED FOR TEAM REVIEW |
| 00 | 11-24-22 | MSB | ISSUED FOR TEAM REVIEW |

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**MOVEMENT**  
**PLANNING**  
**ENVIRONMENTALS**

12489, 12861 & 12892 DIXIE ROAD

## FUNCTIONAL ROAD PLAN

### DIXIE ROAD - INTERIM CONDITION

Date: NOVEMBER 24, 2023

Project No.: 7843-21

Scale: 1:750



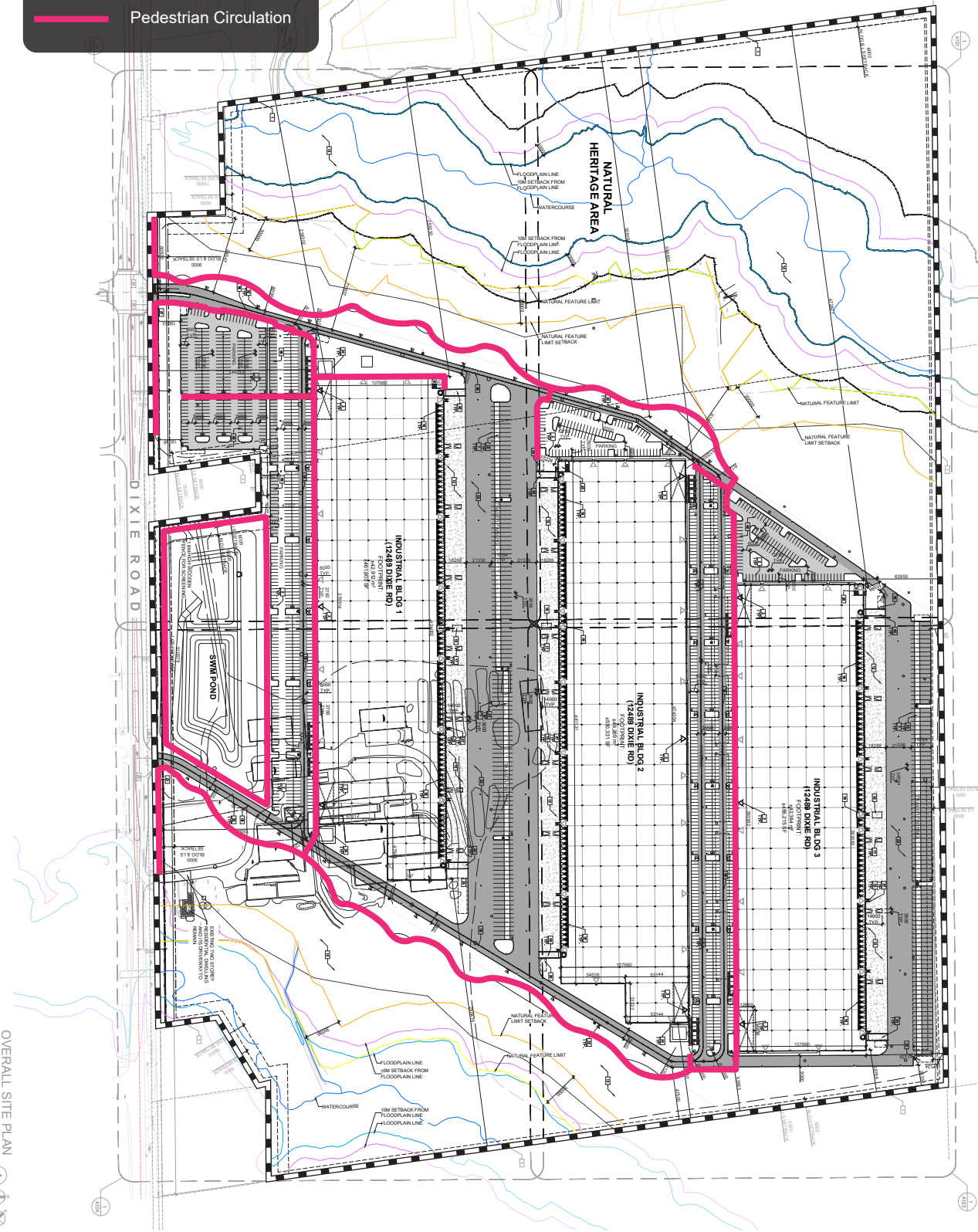
## **APPENDIX D: Pedestrian Site Circulation Map**



**LEGEND**

Site Boundary

Pedestrian Circulation



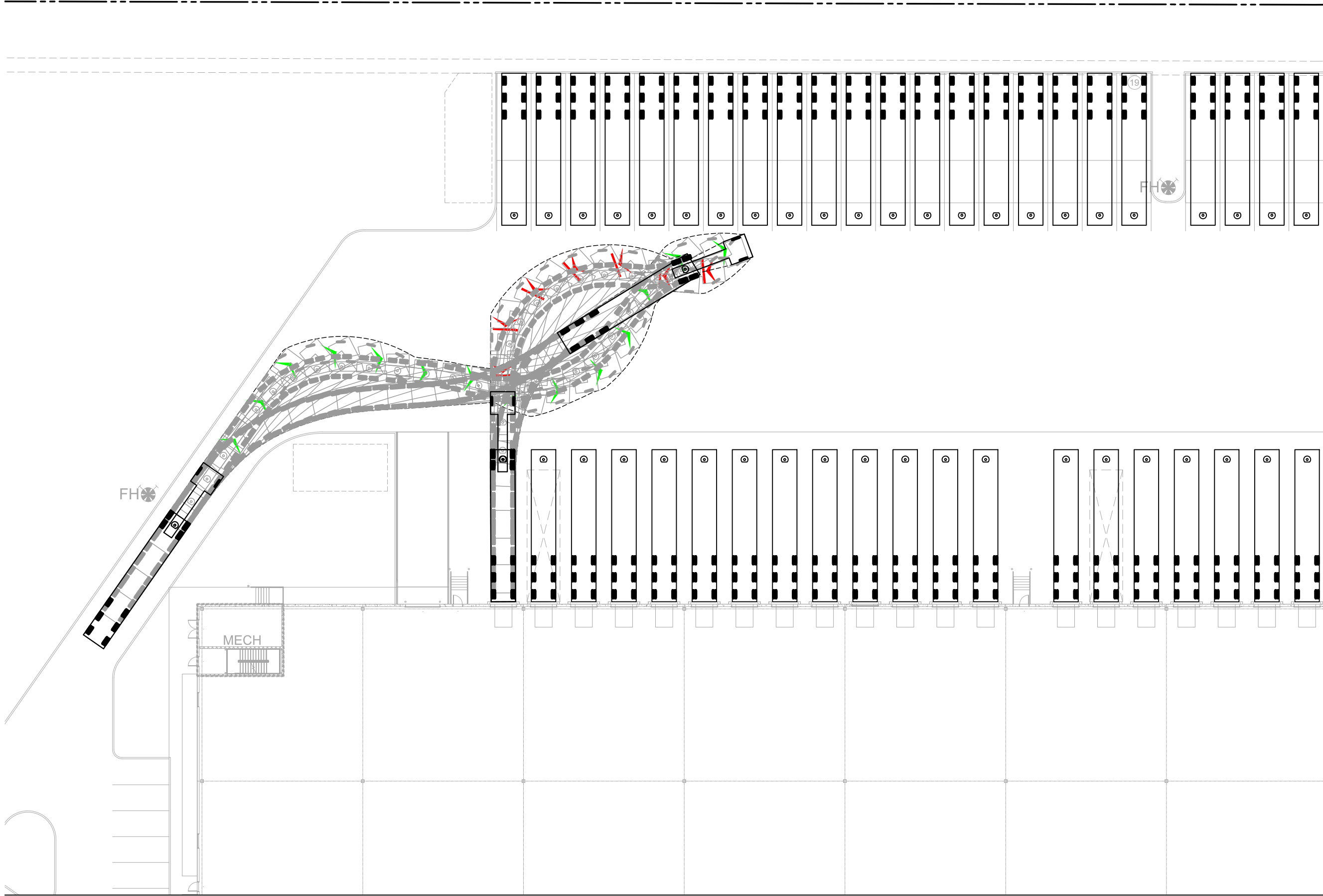
Aerial maps provided courtesy of: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

PEDESTRIAN CIRCULATION

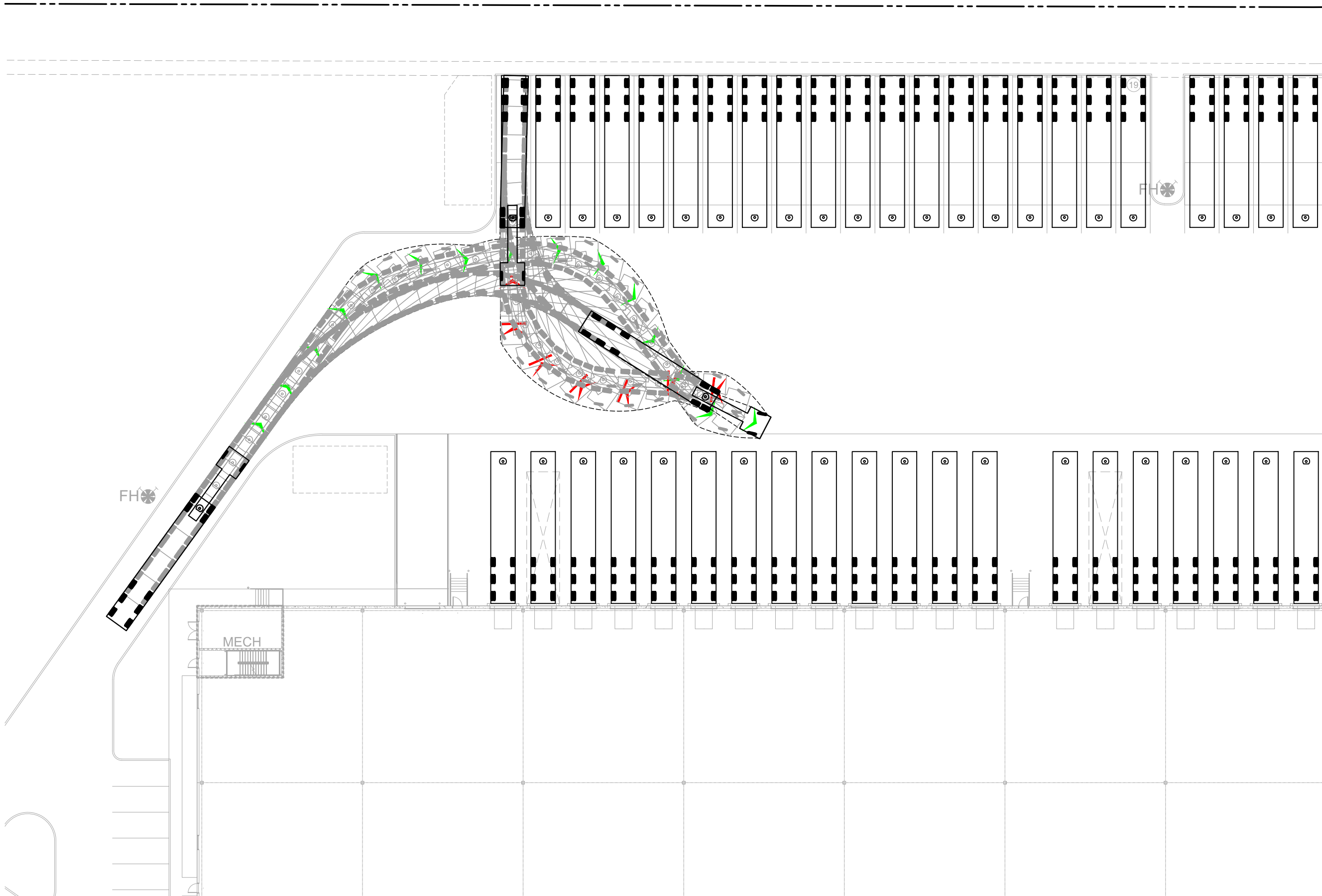


## **Appendix E: Vehicle Maneuvering Diagrams**

LOADING SPACE #1  
INBOUND



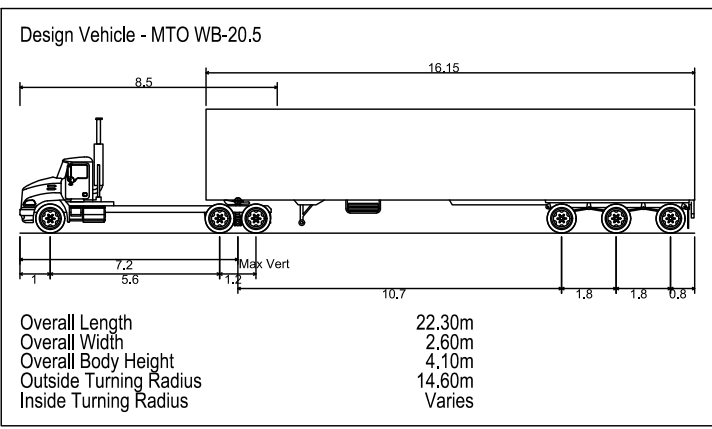
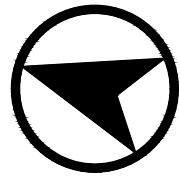
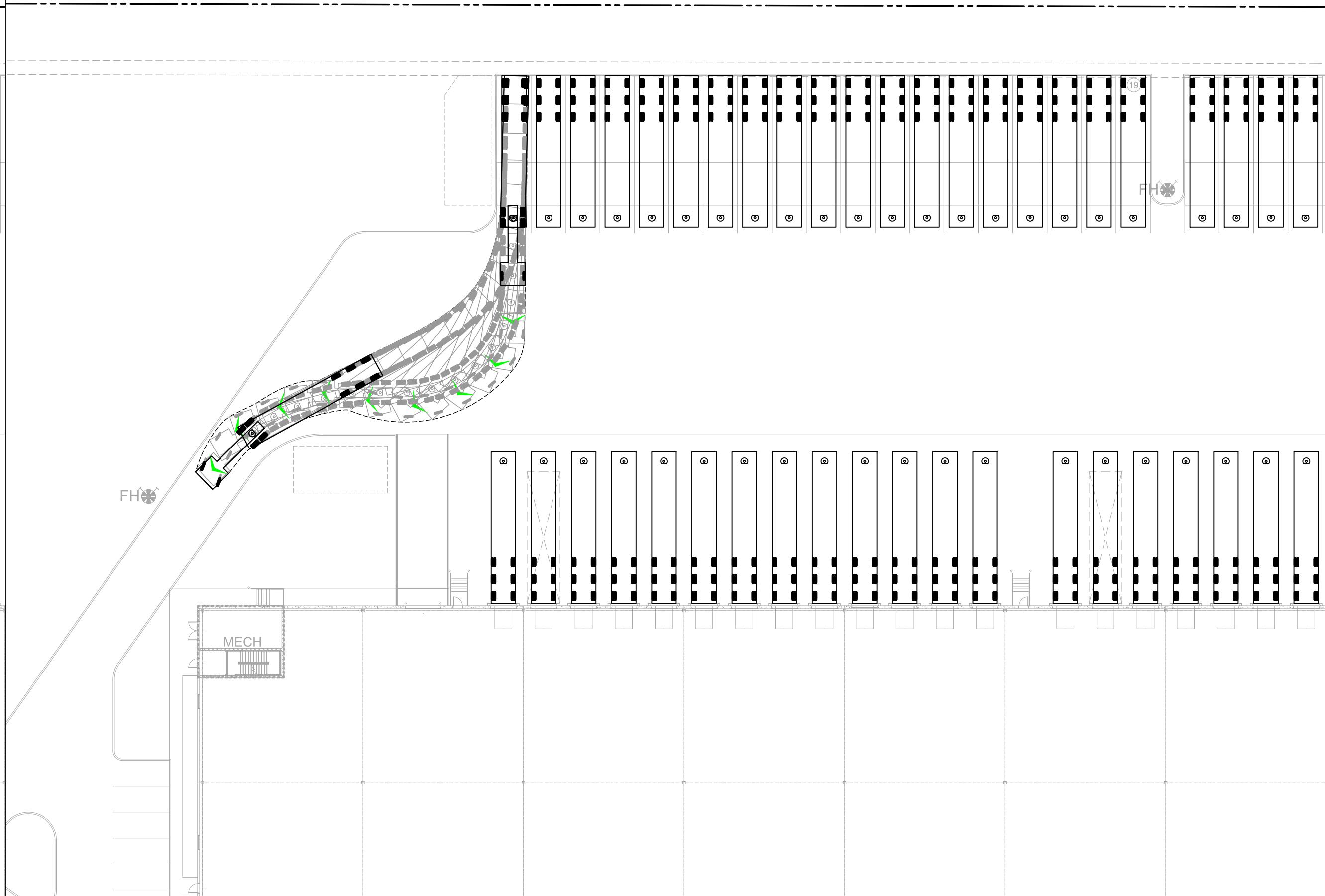
LOADING SPACE #2  
INBOUND



LOADING SPACE #1  
OUTBOUND



LOADING SPACE #2  
OUTBOUND



00 07-23-25 MSB ISSUED FOR SUBMISSION

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12489 DIXIE ROAD

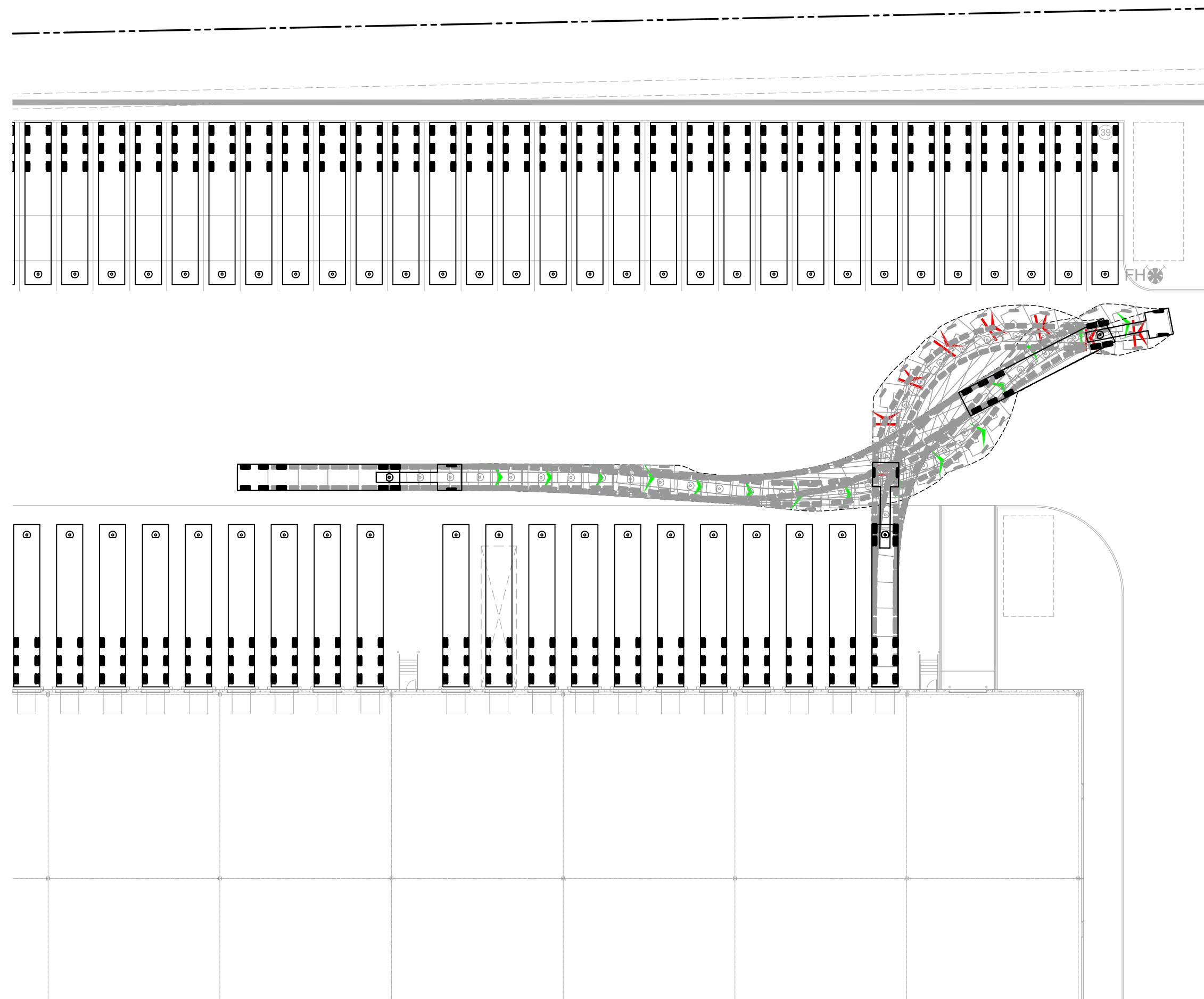
VEHICLE MANOEUVRING DIAGRAM  
MTO WB-20.5 WITH A 53' TRAILER

Date: JULY 23, 2025  
Project No.: 7843-21  
Scale: 1:400

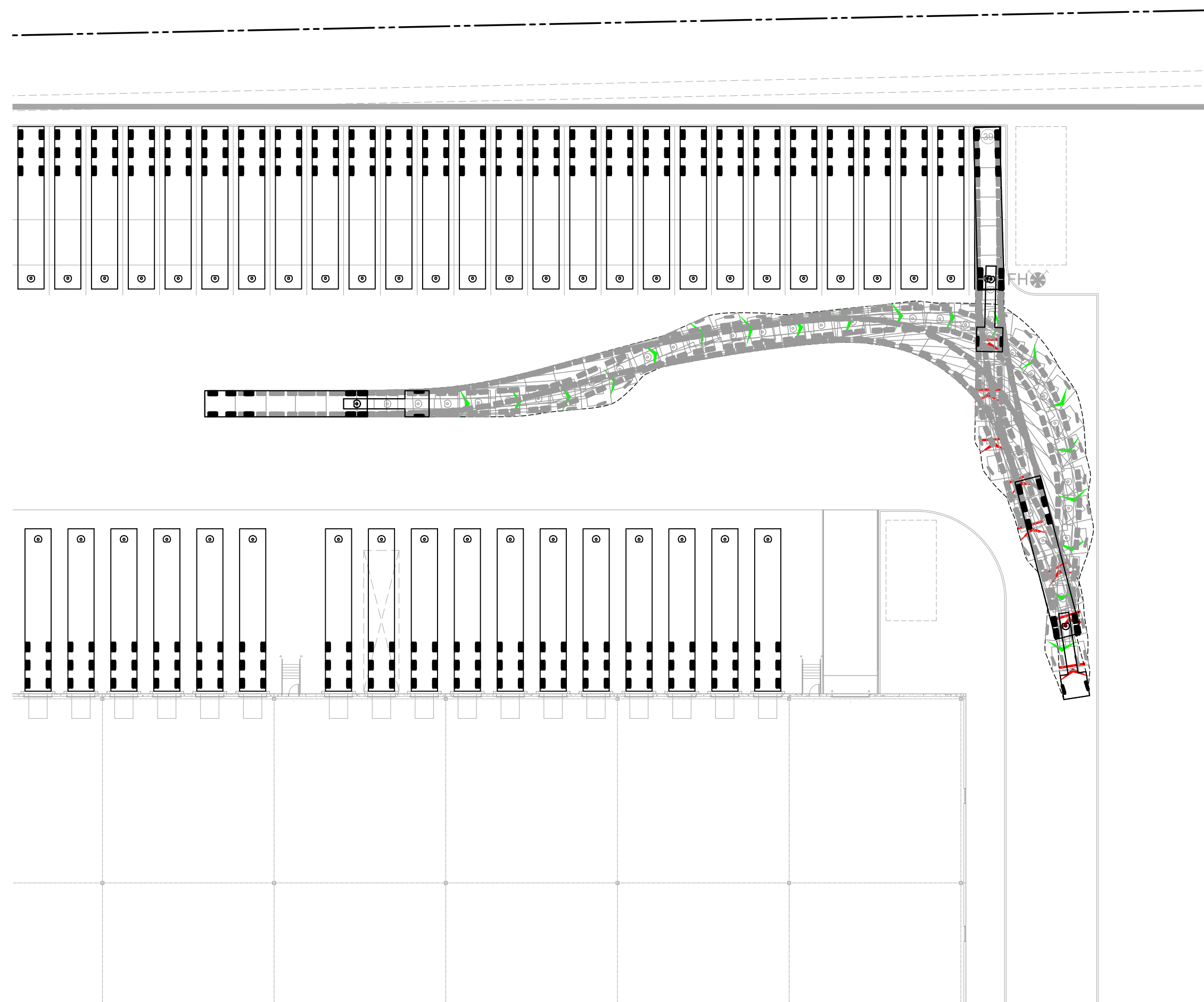
VMD01



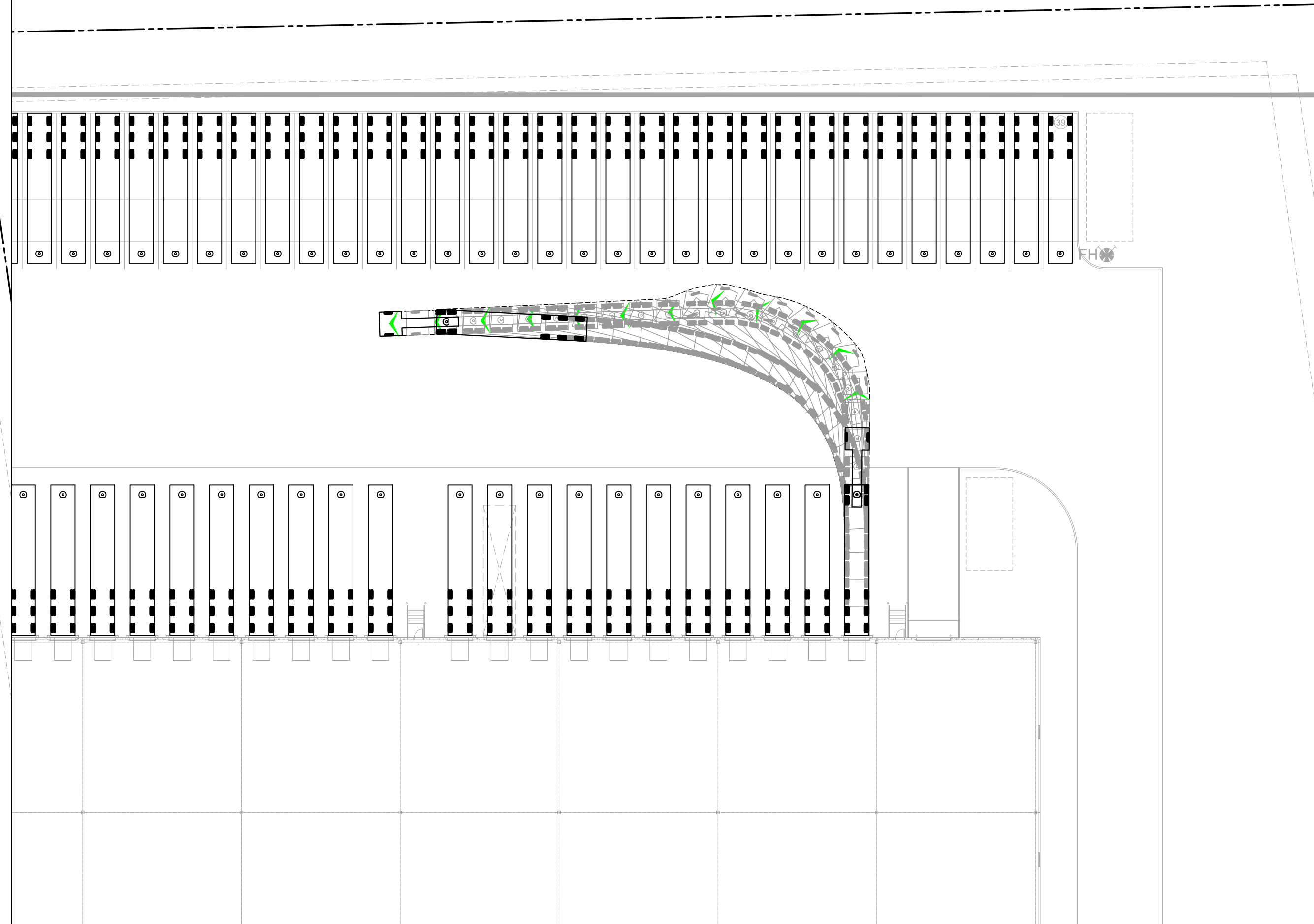
LOADING SPACE #3  
INBOUND



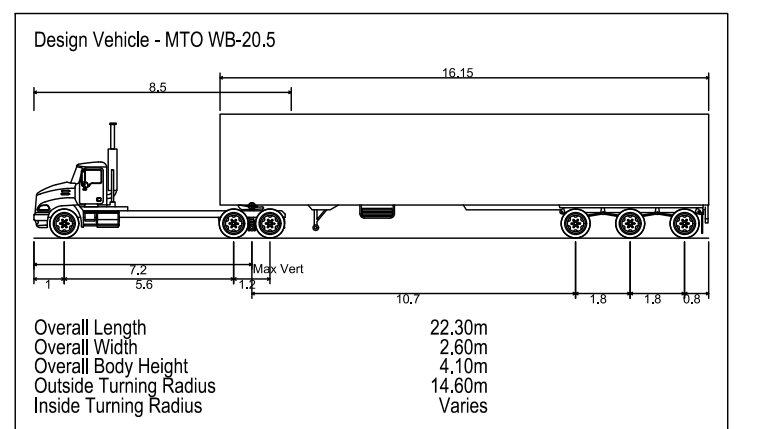
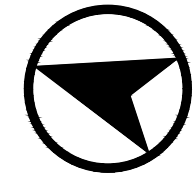
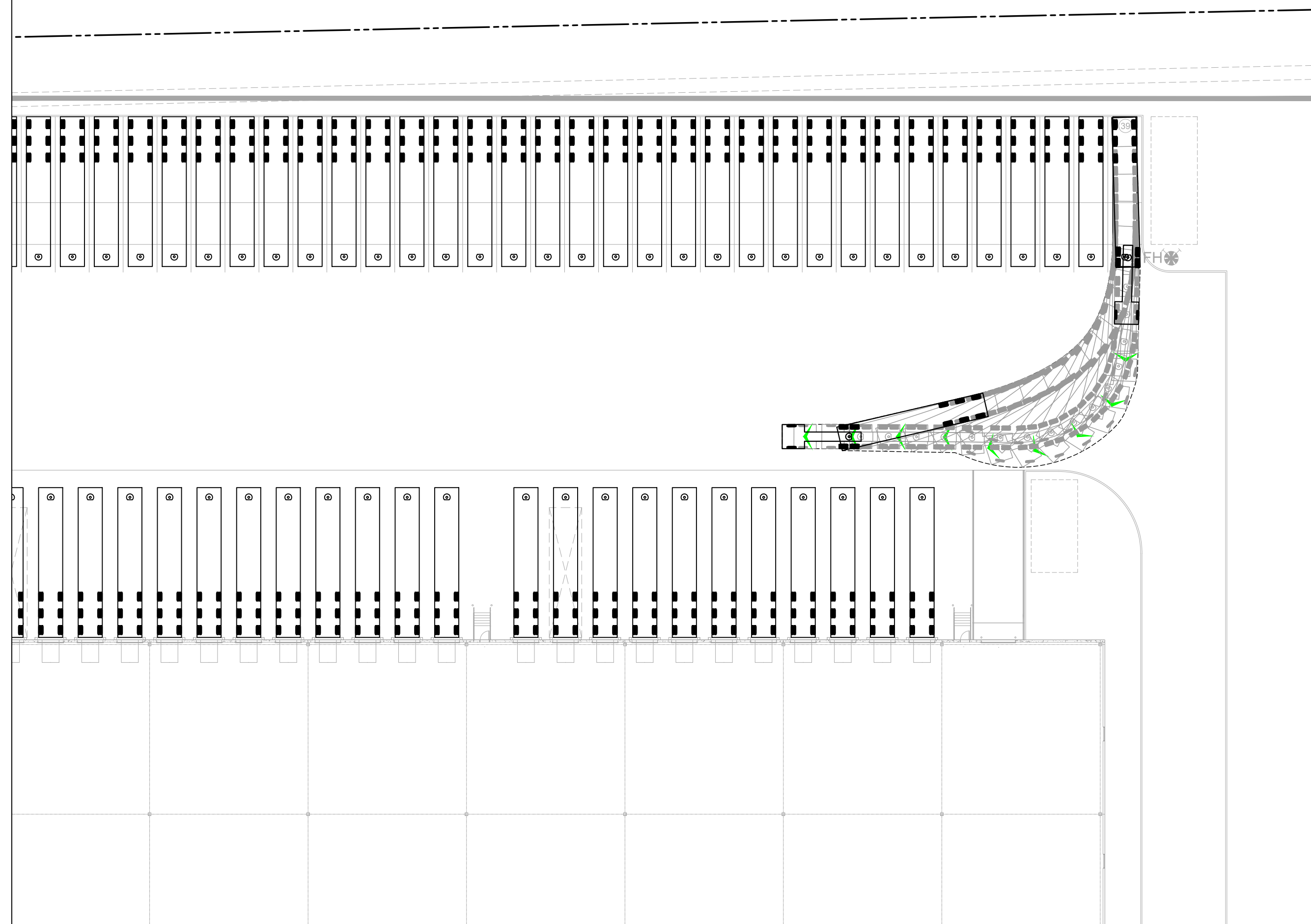
LOADING SPACE #4  
INBOUND



LOADING SPACE #3  
OUTBOUND



LOADING SPACE #4  
OUTBOUND



|    |          |     |                       |
|----|----------|-----|-----------------------|
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12489 DIXIE ROAD

### VEHICLE MANOEUVRING DIAGRAM

MTO WB-20.5 WITH A 53' TRAILER

Date: JULY 23, 2025

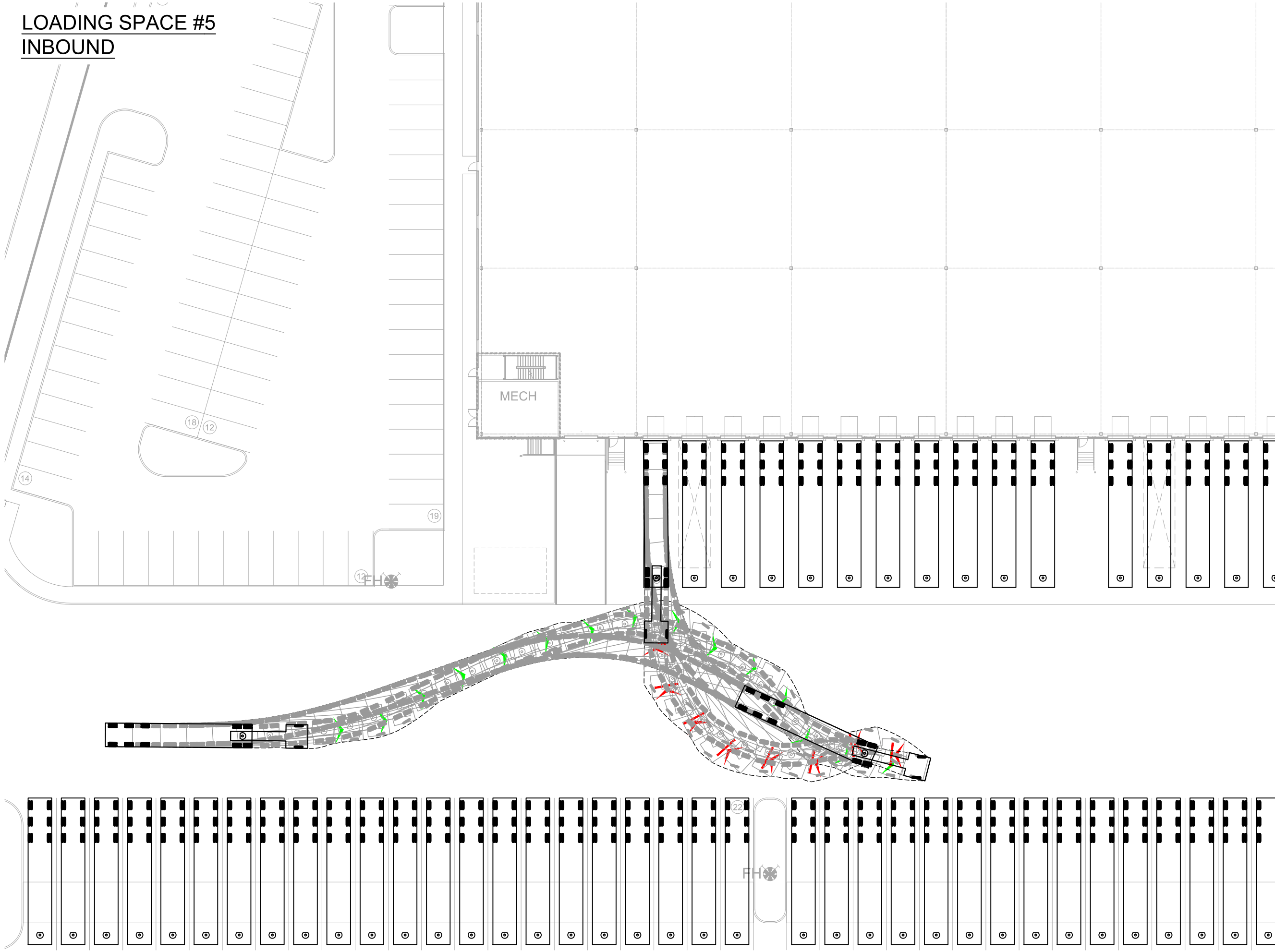
Project No.: 7843-21

Scale: 1:400

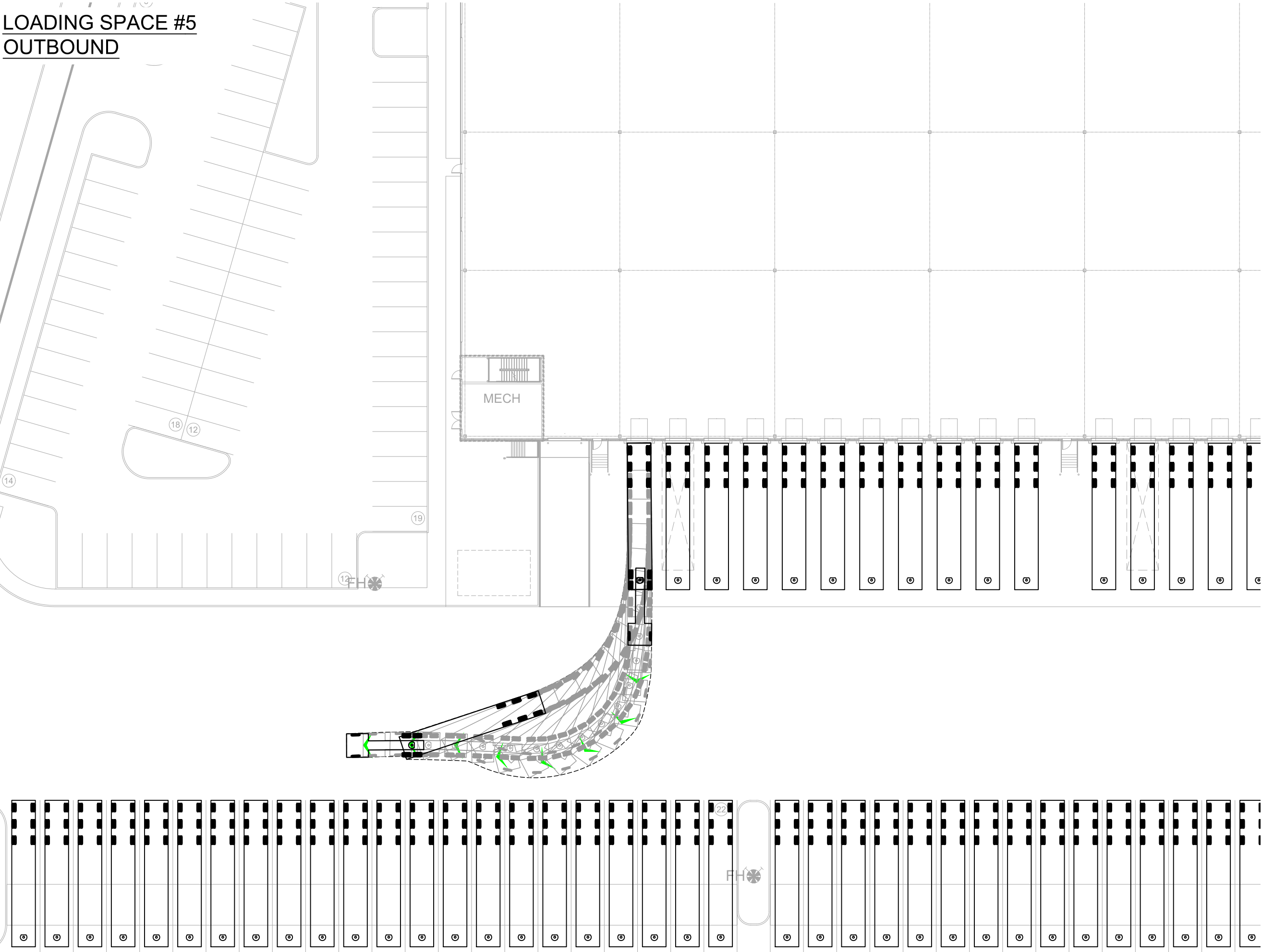
VMD02



LOADING SPACE #5  
INBOUND



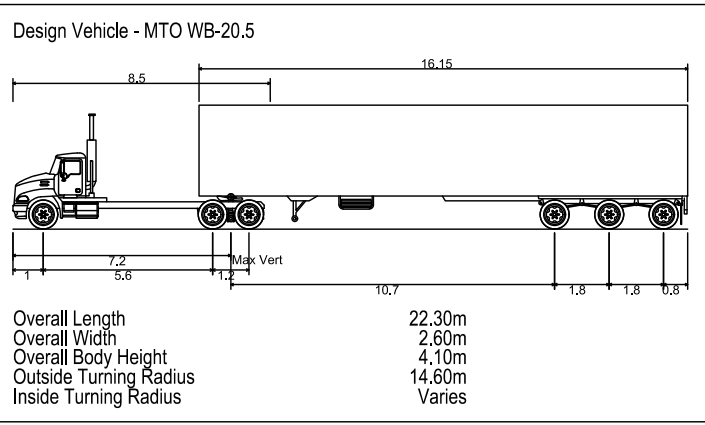
LOADING SPACE #5  
OUTBOUND



LOADING SPACE #6  
INBOUND



LOADING SPACE #6  
OUTBOUND



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12489 DIXIE ROAD

VEHICLE MANOEUVRING DIAGRAM  
MTO WB-20.5 WITH A 53' TRAILER

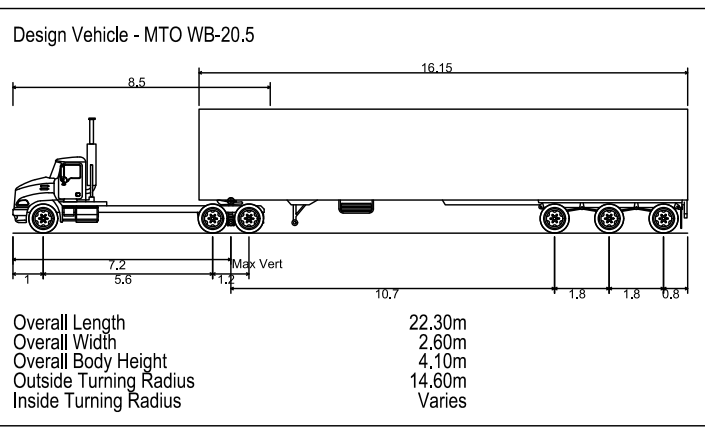
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Project No.: 7843-21  
Scale: 1:400

VMD03



LOADING SPACE #7  
INBOUND

LOADING SPACE #7  
OUTBOUND



LOADING SPACE #8  
INBOUND

LOADING SPACE #8  
OUTBOUND

|    |          |     |                       |
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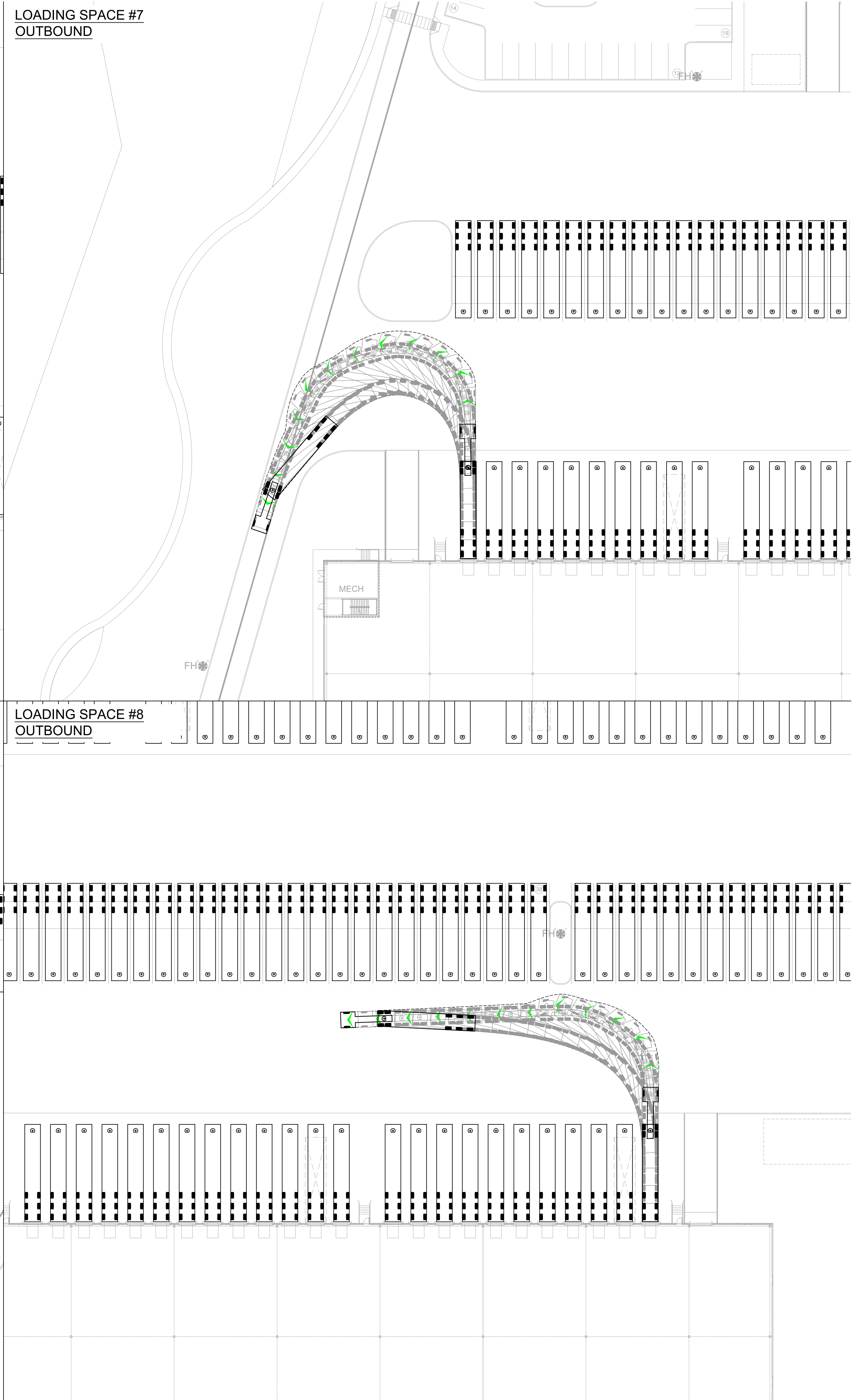
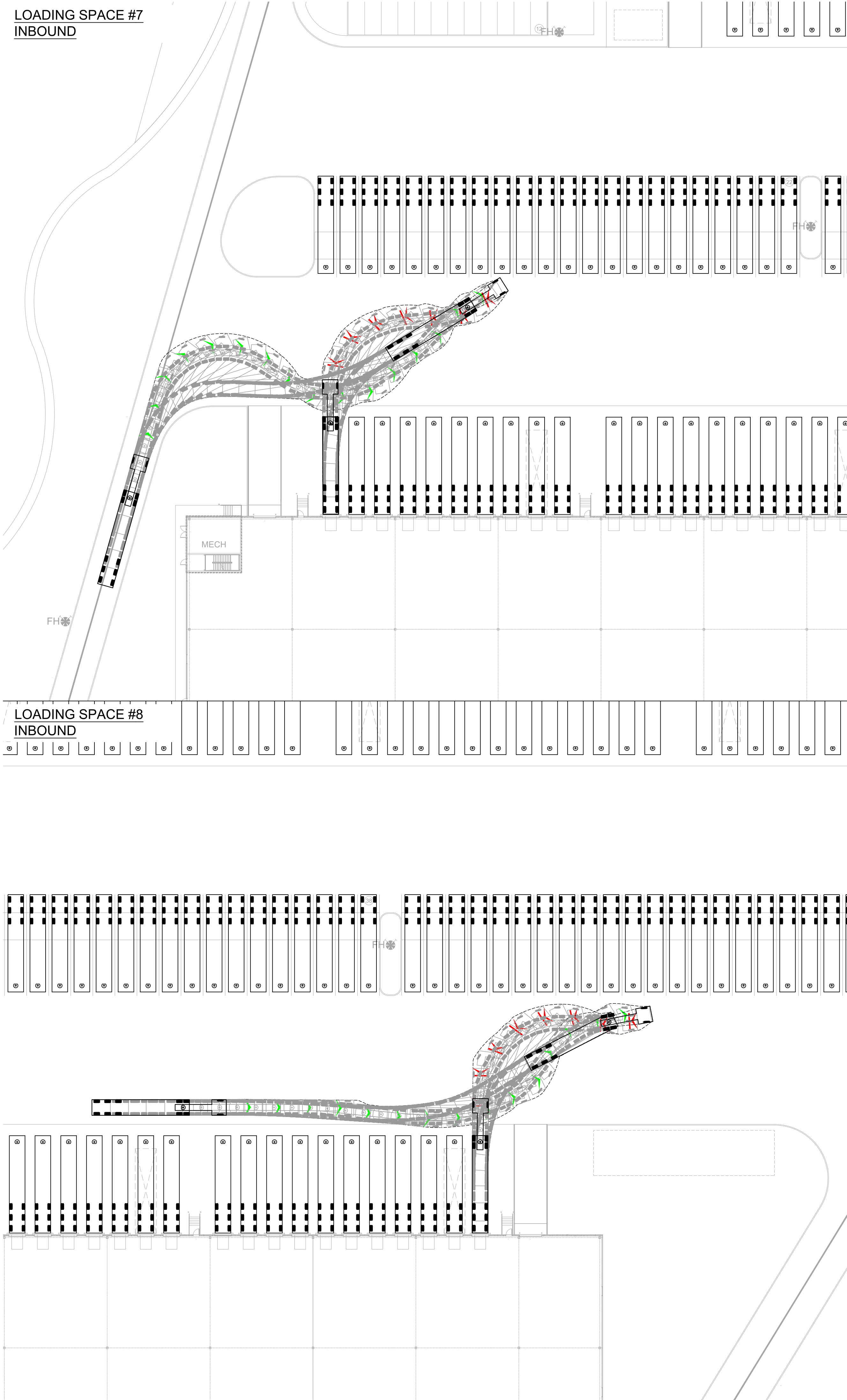
MOVEMENT  
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12489 DIXIE ROAD

VEHICLE MANOEUVRING DIAGRAM  
MTO WB-20.5 WITH A 53' TRAILER

Date: JULY 23, 2025  
Project No.: 7843-21  
Scale: 1:400

VMD04



## **APPENDIX F: Turning Movement Counts**





Turning Movement Count (5 . DIXIE RD & 12424 DIXIE RD)

| Start Time  | N Approach<br>DIXIE RD |             |              |            |                | S Approach<br>DIXIE RD |             |              |            |                | W Approach<br>12424 DIXIE RD (UPS SOUTH ACCESS) |             |              |            |                | Int. Total<br>(15 min) | Int. Total<br>(1 hr) |
|-------------|------------------------|-------------|--------------|------------|----------------|------------------------|-------------|--------------|------------|----------------|-------------------------------------------------|-------------|--------------|------------|----------------|------------------------|----------------------|
|             | Right<br>N:W           | Thru<br>N:S | UTurn<br>N:N | Peds<br>N: | Approach Total | Thru<br>S:N            | Left<br>S:W | UTurn<br>S:S | Peds<br>S: | Approach Total | Right<br>W:S                                    | Left<br>W:N | UTurn<br>W:W | Peds<br>W: | Approach Total |                        |                      |
| 07:00:00    | 0                      | 107         | 0            | 0          | 107            | 65                     | 0           | 0            | 0          | 65             | 4                                               | 0           | 0            | 0          | 4              | 176                    |                      |
| 07:15:00    | 0                      | 90          | 0            | 0          | 90             | 53                     | 0           | 0            | 0          | 53             | 1                                               | 0           | 0            | 0          | 1              | 144                    |                      |
| 07:30:00    | 0                      | 96          | 0            | 0          | 96             | 75                     | 0           | 0            | 0          | 75             | 1                                               | 0           | 0            | 0          | 1              | 172                    |                      |
| 07:45:00    | 0                      | 124         | 0            | 0          | 124            | 58                     | 1           | 0            | 0          | 59             | 4                                               | 0           | 0            | 0          | 4              | 187                    | 679                  |
| 08:00:00    | 0                      | 96          | 0            | 0          | 96             | 45                     | 1           | 0            | 0          | 46             | 8                                               | 0           | 0            | 0          | 8              | 150                    | 653                  |
| 08:15:00    | 0                      | 105         | 0            | 0          | 105            | 47                     | 0           | 0            | 0          | 47             | 8                                               | 1           | 0            | 0          | 9              | 161                    | 670                  |
| 08:30:00    | 0                      | 83          | 0            | 0          | 83             | 46                     | 1           | 0            | 0          | 47             | 10                                              | 2           | 0            | 0          | 12             | 142                    | 640                  |
| 08:45:00    | 0                      | 67          | 0            | 0          | 67             | 59                     | 0           | 0            | 0          | 59             | 15                                              | 0           | 0            | 0          | 15             | 141                    | 594                  |
| ***BREAK*** |                        |             |              |            |                |                        |             |              |            |                |                                                 |             |              |            |                |                        |                      |
| 16:00:00    | 0                      | 92          | 0            | 0          | 92             | 114                    | 1           | 0            | 0          | 115            | 5                                               | 0           | 0            | 0          | 5              | 212                    |                      |
| 16:15:00    | 0                      | 87          | 0            | 0          | 87             | 104                    | 1           | 0            | 0          | 105            | 1                                               | 0           | 0            | 0          | 1              | 193                    |                      |
| 16:30:00    | 0                      | 77          | 0            | 0          | 77             | 108                    | 1           | 0            | 0          | 109            | 3                                               | 0           | 0            | 0          | 3              | 189                    |                      |
| 16:45:00    | 0                      | 87          | 0            | 0          | 87             | 107                    | 0           | 0            | 0          | 107            | 6                                               | 0           | 0            | 0          | 6              | 200                    | 794                  |
| 17:00:00    | 0                      | 93          | 0            | 0          | 93             | 108                    | 0           | 0            | 0          | 108            | 2                                               | 0           | 0            | 0          | 2              | 203                    | 785                  |
| 17:15:00    | 0                      | 71          | 0            | 0          | 71             | 106                    | 1           | 0            | 0          | 107            | 6                                               | 0           | 0            | 0          | 6              | 184                    | 776                  |
| 17:30:00    | 0                      | 99          | 0            | 0          | 99             | 97                     | 1           | 0            | 0          | 98             | 11                                              | 0           | 0            | 1          | 11             | 208                    | 795                  |
| 17:45:00    | 0                      | 112         | 0            | 1          | 112            | 81                     | 0           | 0            | 1          | 81             | 20                                              | 1           | 0            | 0          | 21             | 214                    | 809                  |
| Grand Total | 0                      | 1486        | 0            | 1          | 1486           | 1273                   | 8           | 0            | 1          | 1281           | 105                                             | 4           | 0            | 1          | 109            | 2876                   | -                    |
| Approach%   | 0%                     | 100%        | 0%           |            | -              | 99.4%                  | 0.6%        | 0%           |            | -              | 96.3%                                           | 3.7%        | 0%           |            | -              | -                      | -                    |
| Totals %    | 0%                     | 51.7%       | 0%           |            | 51.7%          | 44.3%                  | 0.3%        | 0%           |            | 44.5%          | 3.7%                                            | 0.1%        | 0%           |            | 3.8%           | -                      | -                    |
| Heavy       | 0                      | 163         | 0            |            | -              | 147                    | 0           | 0            |            | -              | 1                                               | 0           | 0            |            | -              | -                      | -                    |
| Heavy %     | 0%                     | 11%         | 0%           |            | -              | 11.5%                  | 0%          | 0%           |            | -              | 1%                                              | 0%          | 0%           |            | -              | -                      | -                    |
| Bicycles    | -                      | -           | -            |            | -              | -                      | -           | -            |            | -              | -                                               | -           | -            |            | -              | -                      | -                    |
| Bicycle %   | -                      | -           | -            |            | -              | -                      | -           | -            |            | -              | -                                               | -           | -            |            | -              | -                      | -                    |

**Peak Hour: 07:00 AM - 08:00 AM Weather: Broken Clouds (4.48 °C)**

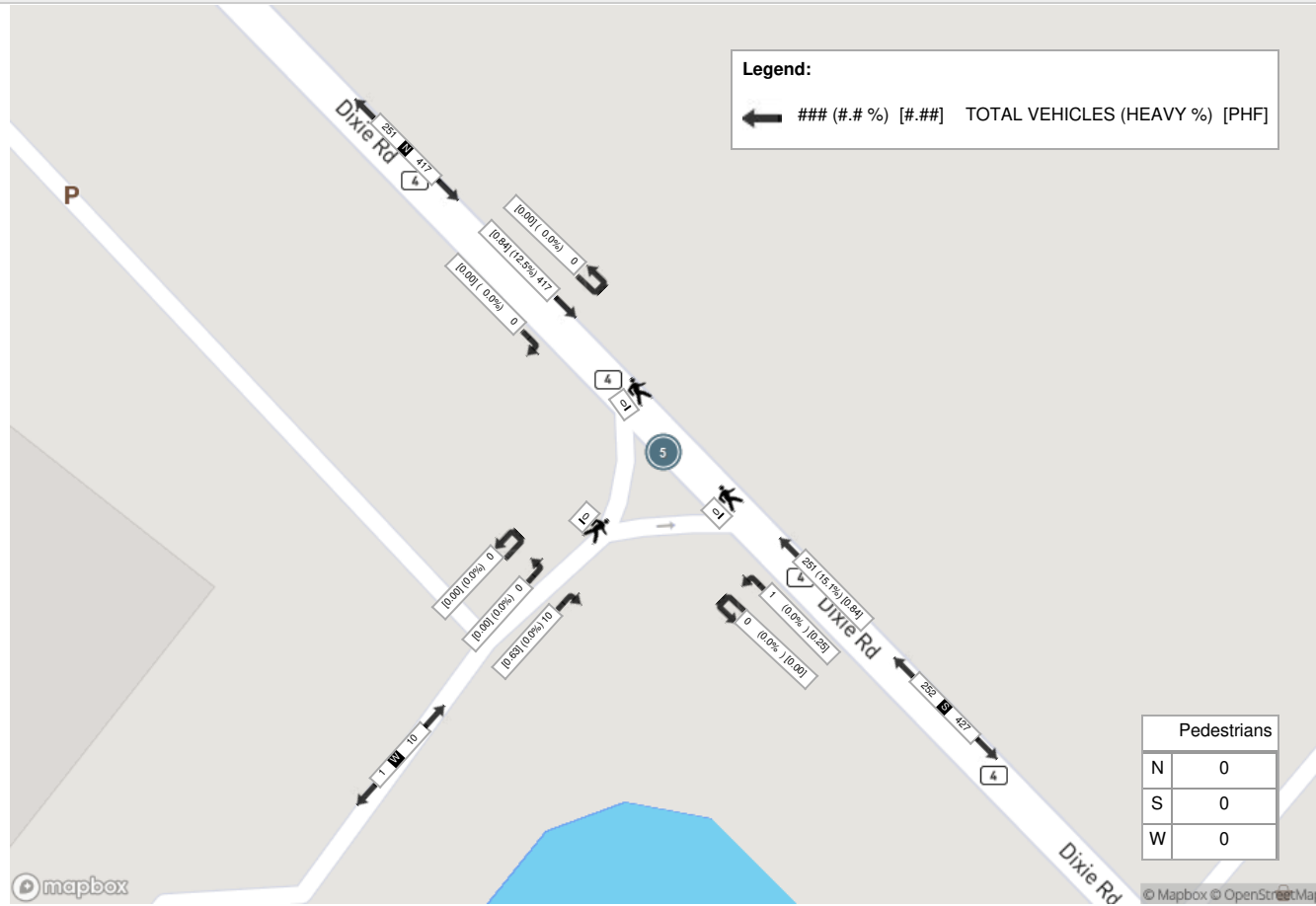
| Start Time                  | N Approach<br>DIXIE RD |            |          |          |                | S Approach<br>DIXIE RD |          |          |          |                | W Approach<br>12424 DIXIE RD (UPS SOUTH ACCESS) |          |          |          |                | Int. Total<br>(15 min) |
|-----------------------------|------------------------|------------|----------|----------|----------------|------------------------|----------|----------|----------|----------------|-------------------------------------------------|----------|----------|----------|----------------|------------------------|
|                             | Right                  | Thru       | UTurn    | Peds     | Approach Total | Thru                   | Left     | UTurn    | Peds     | Approach Total | Right                                           | Left     | UTurn    | Peds     | Approach Total |                        |
| 07:00:00                    | 0                      | 107        | 0        | 0        | 107            | 65                     | 0        | 0        | 0        | 65             | 4                                               | 0        | 0        | 0        | 4              | 176                    |
| 07:15:00                    | 0                      | 90         | 0        | 0        | 90             | 53                     | 0        | 0        | 0        | 53             | 1                                               | 0        | 0        | 0        | 1              | 144                    |
| 07:30:00                    | 0                      | 96         | 0        | 0        | 96             | 75                     | 0        | 0        | 0        | 75             | 1                                               | 0        | 0        | 0        | 1              | 172                    |
| 07:45:00                    | 0                      | 124        | 0        | 0        | 124            | 58                     | 1        | 0        | 0        | 59             | 4                                               | 0        | 0        | 0        | 4              | 187                    |
| <b>Grand Total</b>          | <b>0</b>               | <b>417</b> | <b>0</b> | <b>0</b> | <b>417</b>     | <b>251</b>             | <b>1</b> | <b>0</b> | <b>0</b> | <b>252</b>     | <b>10</b>                                       | <b>0</b> | <b>0</b> | <b>0</b> | <b>10</b>      | <b>679</b>             |
| <b>Approach%</b>            | 0%                     | 100%       | 0%       |          | -              | 99.6%                  | 0.4%     | 0%       |          | -              | 100%                                            | 0%       | 0%       |          | -              | -                      |
| <b>Totals %</b>             | 0%                     | 61.4%      | 0%       |          | 61.4%          | 37%                    | 0.1%     | 0%       |          | 37.1%          | 1.5%                                            | 0%       | 0%       |          | 1.5%           | -                      |
| <b>PHF</b>                  | 0                      | 0.84       | 0        |          | 0.84           | 0.84                   | 0.25     | 0        |          | 0.84           | 0.63                                            | 0        | 0        |          | 0.63           | -                      |
| <b>Heavy</b>                | 0                      | 52         | 0        |          | 52             | 38                     | 0        | 0        |          | 38             | 0                                               | 0        | 0        |          | 0              | -                      |
| <b>Heavy %</b>              | 0%                     | 12.5%      | 0%       |          | 12.5%          | 15.1%                  | 0%       | 0%       |          | 15.1%          | 0%                                              | 0%       | 0%       |          | 0%             | -                      |
| <b>Lights</b>               | 0                      | 365        | 0        |          | 365            | 213                    | 1        | 0        |          | 214            | 10                                              | 0        | 0        |          | 10             | -                      |
| <b>Lights %</b>             | 0%                     | 87.5%      | 0%       |          | 87.5%          | 84.9%                  | 100%     | 0%       |          | 84.9%          | 100%                                            | 0%       | 0%       |          | 100%           | -                      |
| <b>Single-Unit Trucks</b>   | 0                      | 22         | 0        |          | 22             | 22                     | 0        | 0        |          | 22             | 0                                               | 0        | 0        |          | 0              | -                      |
| <b>Single-Unit Trucks %</b> | 0%                     | 5.3%       | 0%       |          | 5.3%           | 8.8%                   | 0%       | 0%       |          | 8.7%           | 0%                                              | 0%       | 0%       |          | 0%             | -                      |
| <b>Buses</b>                | 0                      | 16         | 0        |          | 16             | 3                      | 0        | 0        |          | 3              | 0                                               | 0        | 0        |          | 0              | -                      |
| <b>Buses %</b>              | 0%                     | 3.8%       | 0%       |          | 3.8%           | 1.2%                   | 0%       | 0%       |          | 1.2%           | 0%                                              | 0%       | 0%       |          | 0%             | -                      |
| <b>Articulated Trucks</b>   | 0                      | 14         | 0        |          | 14             | 13                     | 0        | 0        |          | 13             | 0                                               | 0        | 0        |          | 0              | -                      |
| <b>Articulated Trucks %</b> | 0%                     | 3.4%       | 0%       |          | 3.4%           | 5.2%                   | 0%       | 0%       |          | 5.2%           | 0%                                              | 0%       | 0%       |          | 0%             | -                      |
| <b>Pedestrians</b>          | -                      | -          | -        | 0        | -              | -                      | -        | -        | 0        | -              | -                                               | -        | -        | 0        | -              | -                      |
| <b>Pedestrians%</b>         | -                      | -          | -        | 0%       | -              | -                      | -        | -        | 0%       | -              | -                                               | -        | -        | 0%       | -              | -                      |



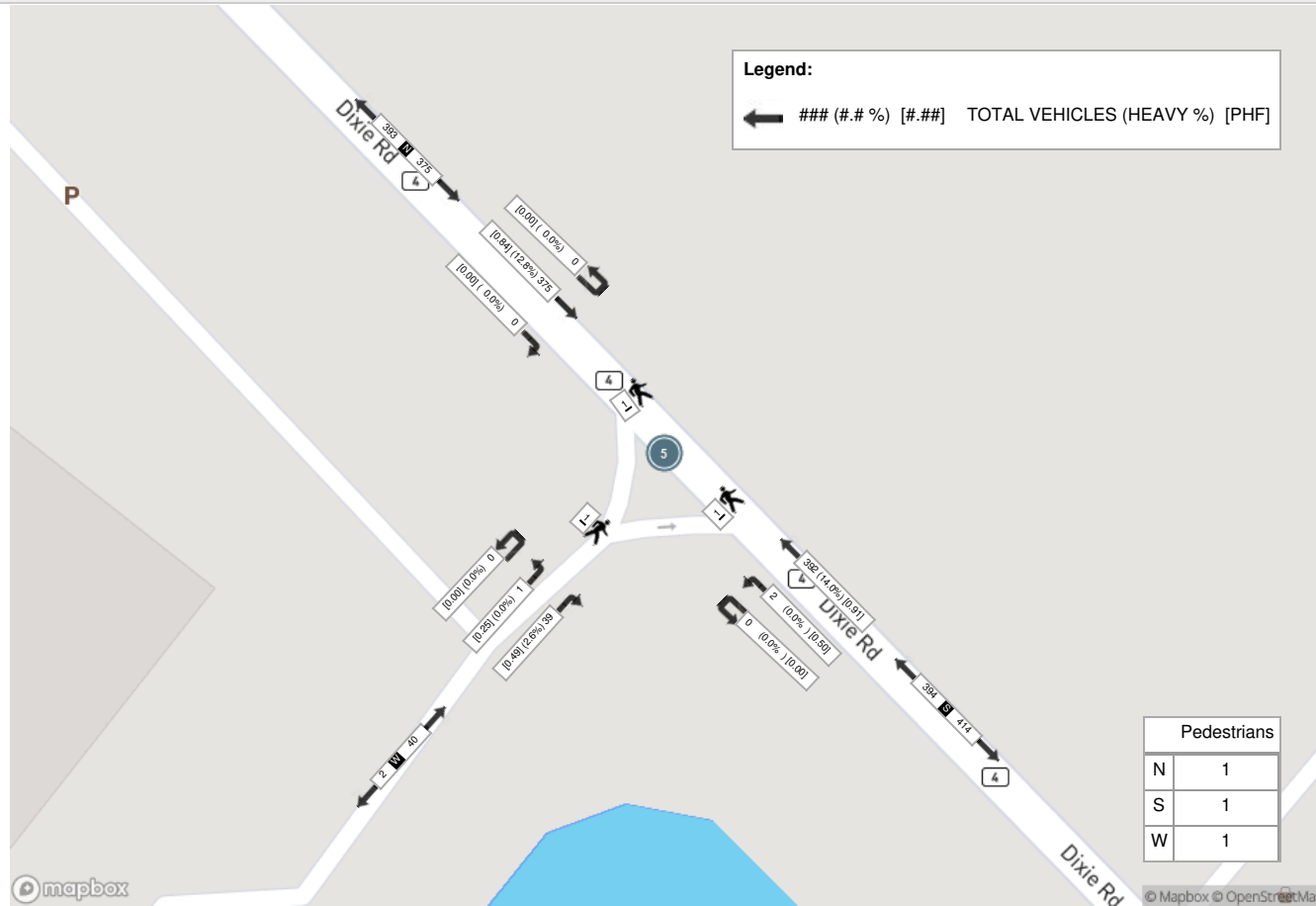
Peak Hour: 05:00 PM - 06:00 PM Weather: Few Clouds (7.51 °C)

| Start Time           | N Approach<br>DIXIE RD |       |       |       |                | S Approach<br>DIXIE RD |      |       |       |                | W Approach<br>12424 DIXIE RD (UPS SOUTH ACCESS) |      |       |       |                | Int. Total<br>(15 min) |
|----------------------|------------------------|-------|-------|-------|----------------|------------------------|------|-------|-------|----------------|-------------------------------------------------|------|-------|-------|----------------|------------------------|
|                      | Right                  | Thru  | UTurn | Peds  | Approach Total | Thru                   | Left | UTurn | Peds  | Approach Total | Right                                           | Left | UTurn | Peds  | Approach Total |                        |
| 17:00:00             | 0                      | 93    | 0     | 0     | 93             | 108                    | 0    | 0     | 0     | 108            | 2                                               | 0    | 0     | 0     | 2              | 203                    |
| 17:15:00             | 0                      | 71    | 0     | 0     | 71             | 106                    | 1    | 0     | 0     | 107            | 6                                               | 0    | 0     | 0     | 6              | 184                    |
| 17:30:00             | 0                      | 99    | 0     | 0     | 99             | 97                     | 1    | 0     | 0     | 98             | 11                                              | 0    | 0     | 1     | 11             | 208                    |
| 17:45:00             | 0                      | 112   | 0     | 1     | 112            | 81                     | 0    | 0     | 1     | 81             | 20                                              | 1    | 0     | 0     | 21             | 214                    |
| Grand Total          | 0                      | 375   | 0     | 1     | 375            | 392                    | 2    | 0     | 1     | 394            | 39                                              | 1    | 0     | 1     | 40             | 809                    |
| Approach%            | 0%                     | 100%  | 0%    |       | -              | 99.5%                  | 0.5% | 0%    |       | -              | 97.5%                                           | 2.5% | 0%    |       | -              | -                      |
| Totals %             | 0%                     | 46.4% | 0%    |       | 46.4%          | 48.5%                  | 0.2% | 0%    |       | 48.7%          | 4.8%                                            | 0.1% | 0%    |       | 4.9%           | -                      |
| PHF                  | 0                      | 0.84  | 0     |       | 0.84           | 0.91                   | 0.5  | 0     |       | 0.91           | 0.49                                            | 0.25 | 0     |       | 0.48           | -                      |
| Heavy                | 0                      | 48    | 0     |       | 48             | 55                     | 0    | 0     |       | 55             | 1                                               | 0    | 0     |       | 1              | -                      |
| Heavy %              | 0%                     | 12.8% | 0%    |       | 12.8%          | 14%                    | 0%   | 0%    |       | 14%            | 2.6%                                            | 0%   | 0%    |       | 2.5%           | -                      |
| Lights               | 0                      | 327   | 0     |       | 327            | 337                    | 2    | 0     |       | 339            | 38                                              | 1    | 0     |       | 39             | -                      |
| Lights %             | 0%                     | 87.2% | 0%    |       | 87.2%          | 86%                    | 100% | 0%    |       | 86%            | 97.4%                                           | 100% | 0%    |       | 97.5%          | -                      |
| Single-Unit Trucks   | 0                      | 22    | 0     |       | 22             | 35                     | 0    | 0     |       | 35             | 1                                               | 0    | 0     |       | 1              | -                      |
| Single-Unit Trucks % | 0%                     | 5.9%  | 0%    |       | 5.9%           | 8.9%                   | 0%   | 0%    |       | 8.9%           | 2.6%                                            | 0%   | 0%    |       | 2.5%           | -                      |
| Buses                | 0                      | 0     | 0     |       | 0              | 0                      | 0    | 0     |       | 0              | 0                                               | 0    | 0     |       | 0              | -                      |
| Buses %              | 0%                     | 0%    | 0%    |       | 0%             | 0%                     | 0%   | 0%    |       | 0%             | 0%                                              | 0%   | 0%    |       | 0%             | -                      |
| Articulated Trucks   | 0                      | 26    | 0     |       | 26             | 20                     | 0    | 0     |       | 20             | 0                                               | 0    | 0     |       | 0              | -                      |
| Articulated Trucks % | 0%                     | 6.9%  | 0%    |       | 6.9%           | 5.1%                   | 0%   | 0%    |       | 5.1%           | 0%                                              | 0%   | 0%    |       | 0%             | -                      |
| Pedestrians          | -                      | -     | -     | 1     | -              | -                      | -    | -     | 1     | -              | -                                               | -    | -     | 1     | -              | -                      |
| Pedestrians%         | -                      | -     | -     | 33.3% | -              | -                      | -    | -     | 33.3% | -              | -                                               | -    | -     | 33.3% | -              | -                      |

**Peak Hour: 07:00 AM - 08:00 AM Weather: Broken Clouds (4.48 °C)**



**Peak Hour: 05:00 PM - 06:00 PM    Weather: Few Clouds (7.51 °C)**





Turning Movement Count (6 . DIXIE RD & 12424 DIXIE ROAD (UPS NORTH ACCESS))

| Start Time  | N Approach<br>DIXIE RD |             |              |            |                | S Approach<br>DIXIE RD |             |              |            |                | W Approach<br>UPS MAIN INTERSECTION (12424 DIXIE RD) |             |              |            |                | Int. Total<br>(15 min) | Int. Total<br>(1 hr) |
|-------------|------------------------|-------------|--------------|------------|----------------|------------------------|-------------|--------------|------------|----------------|------------------------------------------------------|-------------|--------------|------------|----------------|------------------------|----------------------|
|             | Right<br>N:W           | Thru<br>N:S | UTurn<br>N:N | Peds<br>N: | Approach Total | Thru<br>S:N            | Left<br>S:W | UTurn<br>S:S | Peds<br>S: | Approach Total | Right<br>W:S                                         | Left<br>W:N | UTurn<br>W:W | Peds<br>W: | Approach Total |                        |                      |
| 07:00:00    | 1                      | 101         | 0            | 0          | 102            | 57                     | 6           | 0            | 0          | 63             | 6                                                    | 1           | 0            | 0          | 7              | 172                    |                      |
| 07:15:00    | 1                      | 86          | 0            | 0          | 87             | 49                     | 6           | 0            | 0          | 55             | 4                                                    | 0           | 0            | 0          | 4              | 146                    |                      |
| 07:30:00    | 1                      | 96          | 0            | 0          | 97             | 64                     | 6           | 0            | 0          | 70             | 1                                                    | 0           | 0            | 0          | 1              | 168                    |                      |
| 07:45:00    | 0                      | 119         | 0            | 0          | 119            | 54                     | 10          | 0            | 0          | 64             | 4                                                    | 0           | 0            | 0          | 4              | 187                    | 673                  |
| 08:00:00    | 3                      | 90          | 0            | 0          | 93             | 32                     | 9           | 1            | 0          | 42             | 4                                                    | 0           | 0            | 0          | 4              | 139                    | 640                  |
| 08:15:00    | 2                      | 102         | 0            | 0          | 104            | 41                     | 9           | 0            | 0          | 50             | 2                                                    | 0           | 0            | 0          | 2              | 156                    | 650                  |
| 08:30:00    | 3                      | 78          | 0            | 0          | 81             | 38                     | 9           | 0            | 0          | 47             | 4                                                    | 0           | 0            | 0          | 4              | 132                    | 614                  |
| 08:45:00    | 6                      | 62          | 0            | 0          | 68             | 44                     | 15          | 1            | 0          | 60             | 4                                                    | 2           | 0            | 0          | 6              | 134                    | 561                  |
| ***BREAK*** |                        |             |              |            |                |                        |             |              |            |                |                                                      |             |              |            |                |                        |                      |
| 16:00:00    | 1                      | 84          | 0            | 0          | 85             | 110                    | 6           | 0            | 0          | 116            | 7                                                    | 0           | 0            | 0          | 7              | 208                    |                      |
| 16:15:00    | 0                      | 81          | 0            | 0          | 81             | 94                     | 8           | 0            | 0          | 102            | 6                                                    | 1           | 0            | 0          | 7              | 190                    |                      |
| 16:30:00    | 2                      | 70          | 0            | 0          | 72             | 101                    | 9           | 0            | 0          | 110            | 7                                                    | 0           | 0            | 0          | 7              | 189                    |                      |
| 16:45:00    | 2                      | 84          | 0            | 0          | 86             | 94                     | 13          | 0            | 0          | 107            | 3                                                    | 0           | 0            | 0          | 3              | 196                    | 783                  |
| 17:00:00    | 1                      | 89          | 0            | 0          | 90             | 87                     | 20          | 0            | 0          | 107            | 4                                                    | 1           | 0            | 0          | 5              | 202                    | 777                  |
| 17:15:00    | 1                      | 67          | 0            | 0          | 68             | 91                     | 16          | 0            | 0          | 107            | 3                                                    | 0           | 0            | 1          | 3              | 178                    | 765                  |
| 17:30:00    | 1                      | 88          | 0            | 0          | 89             | 70                     | 23          | 0            | 0          | 93             | 13                                                   | 0           | 0            | 0          | 13             | 195                    | 771                  |
| 17:45:00    | 1                      | 102         | 0            | 0          | 103            | 55                     | 26          | 0            | 0          | 81             | 9                                                    | 1           | 0            | 0          | 10             | 194                    | 769                  |
| Grand Total | 26                     | 1399        | 0            | 0          | 1425           | 1081                   | 191         | 2            | 0          | 1274           | 81                                                   | 6           | 0            | 1          | 87             | 2786                   | -                    |
| Approach%   | 1.8%                   | 98.2%       | 0%           |            | -              | 84.9%                  | 15%         | 0.2%         |            | -              | 93.1%                                                | 6.9%        | 0%           |            | -              | -                      | -                    |
| Totals %    | 0.9%                   | 50.2%       | 0%           |            | 51.1%          | 38.8%                  | 6.9%        | 0.1%         |            | 45.7%          | 2.9%                                                 | 0.2%        | 0%           |            | 3.1%           | -                      | -                    |
| Heavy       | 5                      | 105         | 0            |            | -              | 58                     | 87          | 0            |            | -              | 57                                                   | 1           | 0            |            | -              | -                      | -                    |
| Heavy %     | 19.2%                  | 7.5%        | 0%           |            | -              | 5.4%                   | 45.5%       | 0%           |            | -              | 70.4%                                                | 16.7%       | 0%           |            | -              | -                      | -                    |
| Bicycles    | -                      | -           | -            |            | -              | -                      | -           | -            |            | -              | -                                                    | -           | -            |            | -              | -                      | -                    |
| Bicycle %   | -                      | -           | -            |            | -              | -                      | -           | -            |            | -              | -                                                    | -           | -            |            | -              | -                      | -                    |





Peak Hour: 07:00 AM - 08:00 AM Weather: Broken Clouds (4.48 °C)

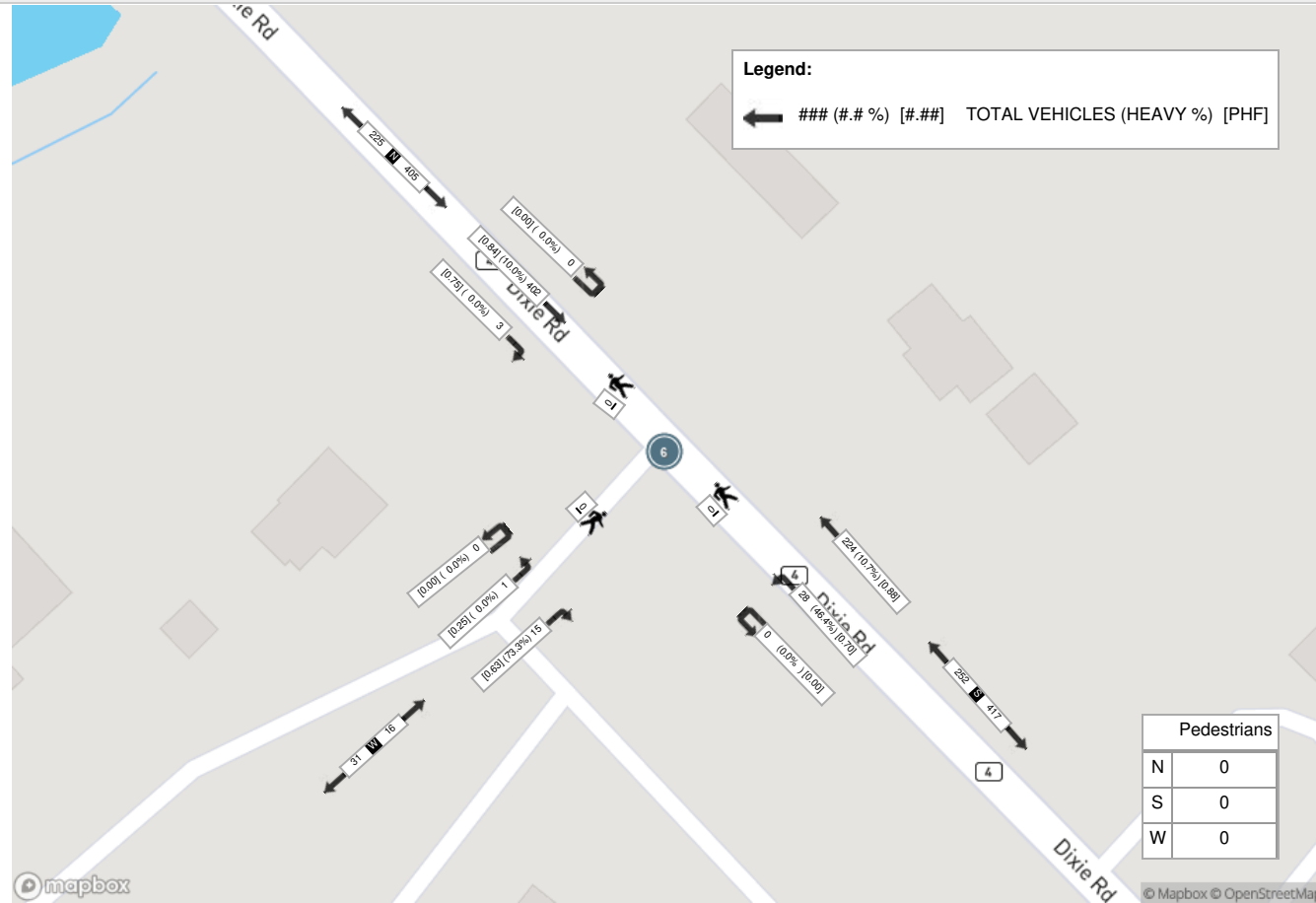
| Start Time           | N Approach<br>DIXIE RD |       |       |      |                | S Approach<br>DIXIE RD |       |       |      |                | W Approach<br>UPS MAIN INTERSECTION (12424 DIXIE RD) |      |       |      |                | Int. Total<br>(15 min) |
|----------------------|------------------------|-------|-------|------|----------------|------------------------|-------|-------|------|----------------|------------------------------------------------------|------|-------|------|----------------|------------------------|
|                      | Right                  | Thru  | UTurn | Peds | Approach Total | Thru                   | Left  | UTurn | Peds | Approach Total | Right                                                | Left | UTurn | Peds | Approach Total |                        |
| 07:00:00             | 1                      | 101   | 0     | 0    | 102            | 57                     | 6     | 0     | 0    | 63             | 6                                                    | 1    | 0     | 0    | 7              | 172                    |
| 07:15:00             | 1                      | 86    | 0     | 0    | 87             | 49                     | 6     | 0     | 0    | 55             | 4                                                    | 0    | 0     | 0    | 4              | 146                    |
| 07:30:00             | 1                      | 96    | 0     | 0    | 97             | 64                     | 6     | 0     | 0    | 70             | 1                                                    | 0    | 0     | 0    | 1              | 168                    |
| 07:45:00             | 0                      | 119   | 0     | 0    | 119            | 54                     | 10    | 0     | 0    | 64             | 4                                                    | 0    | 0     | 0    | 4              | 187                    |
| Grand Total          | 3                      | 402   | 0     | 0    | 405            | 224                    | 28    | 0     | 0    | 252            | 15                                                   | 1    | 0     | 0    | 16             | 673                    |
| Approach%            | 0.7%                   | 99.3% | 0%    |      | -              | 88.9%                  | 11.1% | 0%    |      | -              | 93.8%                                                | 6.3% | 0%    |      | -              | -                      |
| Totals %             | 0.4%                   | 59.7% | 0%    |      | 60.2%          | 33.3%                  | 4.2%  | 0%    |      | 37.4%          | 2.2%                                                 | 0.1% | 0%    |      | 2.4%           | -                      |
| PHF                  | 0.75                   | 0.84  | 0     |      | 0.85           | 0.88                   | 0.7   | 0     |      | 0.9            | 0.63                                                 | 0.25 | 0     |      | 0.57           | -                      |
| Heavy                | 0                      | 40    | 0     |      | 40             | 24                     | 13    | 0     |      | 37             | 11                                                   | 0    | 0     |      | 11             | -                      |
| Heavy %              | 0%                     | 10%   | 0%    |      | 9.9%           | 10.7%                  | 46.4% | 0%    |      | 14.7%          | 73.3%                                                | 0%   | 0%    |      | 68.8%          | -                      |
| Lights               | 3                      | 362   | 0     |      | 365            | 200                    | 15    | 0     |      | 215            | 4                                                    | 1    | 0     |      | 5              | -                      |
| Lights %             | 100%                   | 90%   | 0%    |      | 90.1%          | 89.3%                  | 53.6% | 0%    |      | 85.3%          | 26.7%                                                | 100% | 0%    |      | 31.3%          | -                      |
| Single-Unit Trucks   | 0                      | 18    | 0     |      | 18             | 18                     | 3     | 0     |      | 21             | 5                                                    | 0    | 0     |      | 5              | -                      |
| Single-Unit Trucks % | 0%                     | 4.5%  | 0%    |      | 4.4%           | 8%                     | 10.7% | 0%    |      | 8.3%           | 33.3%                                                | 0%   | 0%    |      | 31.3%          | -                      |
| Buses                | 0                      | 17    | 0     |      | 17             | 3                      | 0     | 0     |      | 3              | 0                                                    | 0    | 0     |      | 0              | -                      |
| Buses %              | 0%                     | 4.2%  | 0%    |      | 4.2%           | 1.3%                   | 0%    | 0%    |      | 1.2%           | 0%                                                   | 0%   | 0%    |      | 0%             | -                      |
| Articulated Trucks   | 0                      | 5     | 0     |      | 5              | 3                      | 10    | 0     |      | 13             | 6                                                    | 0    | 0     |      | 6              | -                      |
| Articulated Trucks % | 0%                     | 1.2%  | 0%    |      | 1.2%           | 1.3%                   | 35.7% | 0%    |      | 5.2%           | 40%                                                  | 0%   | 0%    |      | 37.5%          | -                      |
| Pedestrians          | -                      | -     | -     | 0    | -              | -                      | -     | -     | 0    | -              | -                                                    | -    | -     | 0    | -              | -                      |
| Pedestrians%         | -                      | -     | -     | 0%   | -              | -                      | -     | -     | 0%   | -              | -                                                    | -    | -     | 0%   | -              | -                      |



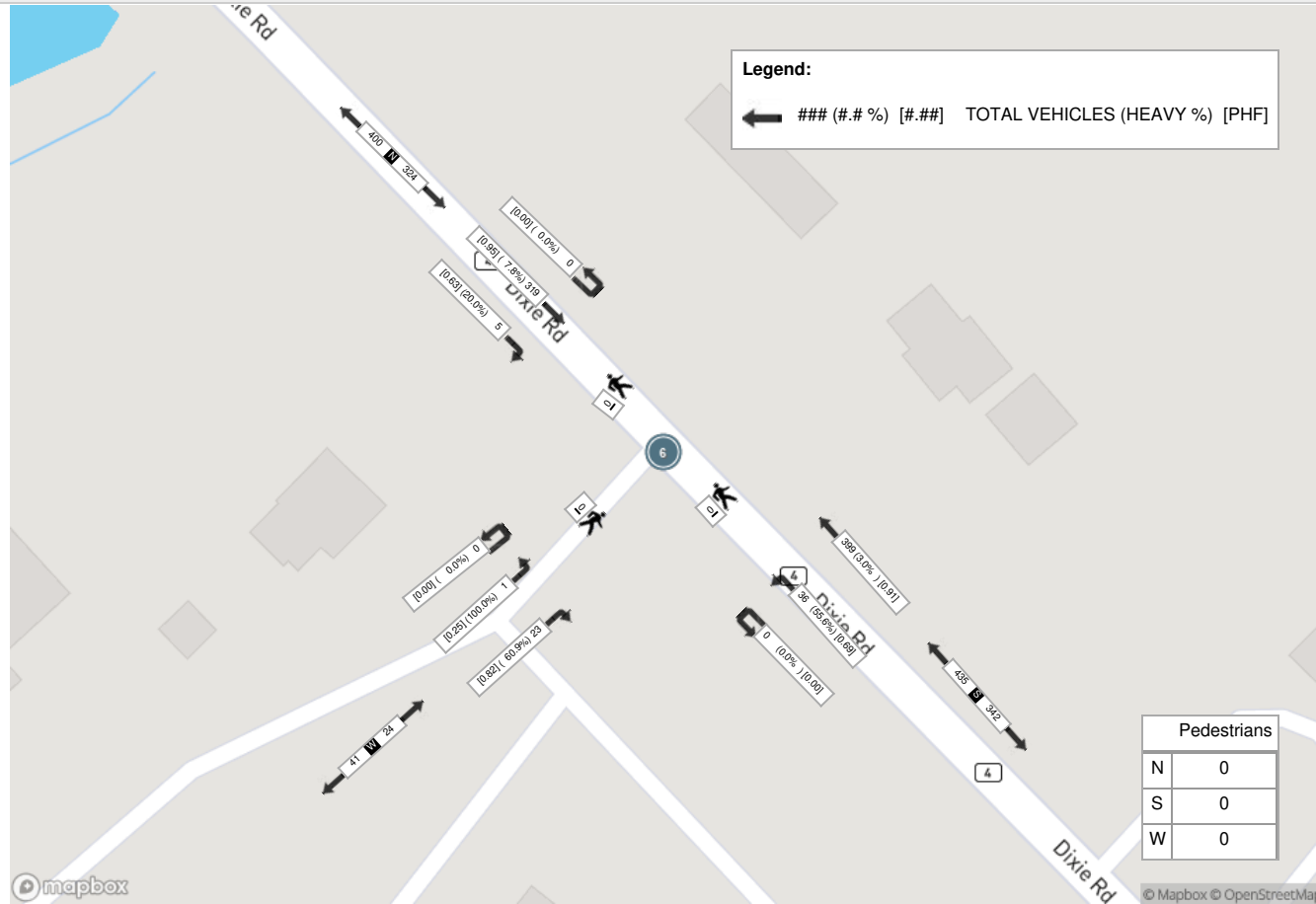
Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (7.51 °C)

| Start Time           | N Approach<br>DIXIE RD |       |       |      |                | S Approach<br>DIXIE RD |       |       |      |                | W Approach<br>UPS MAIN INTERSECTION (12424 DIXIE RD) |      |       |      |                | Int. Total<br>(15 min) |
|----------------------|------------------------|-------|-------|------|----------------|------------------------|-------|-------|------|----------------|------------------------------------------------------|------|-------|------|----------------|------------------------|
|                      | Right                  | Thru  | UTurn | Peds | Approach Total | Thru                   | Left  | UTurn | Peds | Approach Total | Right                                                | Left | UTurn | Peds | Approach Total |                        |
| 16:00:00             | 1                      | 84    | 0     | 0    | 85             | 110                    | 6     | 0     | 0    | 116            | 7                                                    | 0    | 0     | 0    | 7              | 208                    |
| 16:15:00             | 0                      | 81    | 0     | 0    | 81             | 94                     | 8     | 0     | 0    | 102            | 6                                                    | 1    | 0     | 0    | 7              | 190                    |
| 16:30:00             | 2                      | 70    | 0     | 0    | 72             | 101                    | 9     | 0     | 0    | 110            | 7                                                    | 0    | 0     | 0    | 7              | 189                    |
| 16:45:00             | 2                      | 84    | 0     | 0    | 86             | 94                     | 13    | 0     | 0    | 107            | 3                                                    | 0    | 0     | 0    | 3              | 196                    |
| Grand Total          | 5                      | 319   | 0     | 0    | 324            | 399                    | 36    | 0     | 0    | 435            | 23                                                   | 1    | 0     | 0    | 24             | 783                    |
| Approach%            | 1.5%                   | 98.5% | 0%    |      | -              | 91.7%                  | 8.3%  | 0%    |      | -              | 95.8%                                                | 4.2% | 0%    |      | -              | -                      |
| Totals %             | 0.6%                   | 40.7% | 0%    |      | 41.4%          | 51%                    | 4.6%  | 0%    |      | 55.6%          | 2.9%                                                 | 0.1% | 0%    |      | 3.1%           | -                      |
| PHF                  | 0.63                   | 0.95  | 0     |      | 0.94           | 0.91                   | 0.69  | 0     |      | 0.94           | 0.82                                                 | 0.25 | 0     |      | 0.86           | -                      |
| Heavy                | 1                      | 25    | 0     |      | 26             | 12                     | 20    | 0     |      | 32             | 14                                                   | 1    | 0     |      | 15             | -                      |
| Heavy %              | 20%                    | 7.8%  | 0%    |      | 8%             | 3%                     | 55.6% | 0%    |      | 7.4%           | 60.9%                                                | 100% | 0%    |      | 62.5%          | -                      |
| Lights               | 4                      | 294   | 0     |      | 298            | 387                    | 16    | 0     |      | 403            | 9                                                    | 0    | 0     |      | 9              | -                      |
| Lights %             | 80%                    | 92.2% | 0%    |      | 92%            | 97%                    | 44.4% | 0%    |      | 92.6%          | 39.1%                                                | 0%   | 0%    |      | 37.5%          | -                      |
| Single-Unit Trucks   | 1                      | 17    | 0     |      | 18             | 8                      | 6     | 0     |      | 14             | 7                                                    | 0    | 0     |      | 7              | -                      |
| Single-Unit Trucks % | 20%                    | 5.3%  | 0%    |      | 5.6%           | 2%                     | 16.7% | 0%    |      | 3.2%           | 30.4%                                                | 0%   | 0%    |      | 29.2%          | -                      |
| Buses                | 0                      | 3     | 0     |      | 3              | 1                      | 0     | 0     |      | 1              | 0                                                    | 0    | 0     |      | 0              | -                      |
| Buses %              | 0%                     | 0.9%  | 0%    |      | 0.9%           | 0.3%                   | 0%    | 0%    |      | 0.2%           | 0%                                                   | 0%   | 0%    |      | 0%             | -                      |
| Articulated Trucks   | 0                      | 5     | 0     |      | 5              | 3                      | 14    | 0     |      | 17             | 7                                                    | 1    | 0     |      | 8              | -                      |
| Articulated Trucks % | 0%                     | 1.6%  | 0%    |      | 1.5%           | 0.8%                   | 38.9% | 0%    |      | 3.9%           | 30.4%                                                | 100% | 0%    |      | 33.3%          | -                      |
| Pedestrians          | -                      | -     | -     | 0    | -              | -                      | -     | -     | 0    | -              | -                                                    | -    | -     | 0    | -              | -                      |
| Pedestrians%         | -                      | -     | -     | 0%   | -              | -                      | -     | -     | 0%   | -              | -                                                    | -    | -     | 0%   | -              | -                      |

**Peak Hour: 07:00 AM - 08:00 AM Weather: Broken Clouds (4.48 °C)**



**Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (7.51 °C)**





Turning Movement Count (2 . DIXIE RD & ABBOTSDIE WAY)

| Start Time  | N Approach<br>DIXIE RD |             |             |              |            |                | E Approach<br>SPOKANE ST |             |             |              |            |                | S Approach   |             |             |              |            |                | W Approach   |             |             |              |            |                | Int. Total<br>(15 min) | Int. Total<br>(1 hr) |  |
|-------------|------------------------|-------------|-------------|--------------|------------|----------------|--------------------------|-------------|-------------|--------------|------------|----------------|--------------|-------------|-------------|--------------|------------|----------------|--------------|-------------|-------------|--------------|------------|----------------|------------------------|----------------------|--|
|             | Right<br>N:W           | Thru<br>N:S | Left<br>N:E | UTurn<br>N:N | Peds<br>N: | Approach Total | Right<br>E:N             | Thru<br>E:W | Left<br>E:S | UTurn<br>E:E | Peds<br>E: | Approach Total | Right<br>S:E | Thru<br>S:N | Left<br>S:W | UTurn<br>S:S | Peds<br>S: | Approach Total | Right<br>W:S | Thru<br>W:E | Left<br>W:N | UTurn<br>W:W | Peds<br>W: | Approach Total |                        |                      |  |
| 07:00:00    | 1                      | 109         | 0           | 0            | 0          | 110            | 0                        | 0           | 0           | 0            | 1          | 0              | 4            | 72          | 10          | 0            | 0          | 86             | 25           | 0           | 1           | 0            | 0          | 26             | 222                    |                      |  |
| 07:15:00    | 0                      | 92          | 0           | 0            | 0          | 92             | 0                        | 0           | 0           | 0            | 0          | 0              | 1            | 52          | 18          | 0            | 0          | 71             | 7            | 0           | 0           | 0            | 2          | 7              | 170                    |                      |  |
| 07:30:00    | 2                      | 106         | 0           | 0            | 0          | 108            | 0                        | 0           | 1           | 0            | 0          | 1              | 1            | 85          | 15          | 0            | 0          | 101            | 7            | 0           | 1           | 0            | 0          | 8              | 218                    |                      |  |
| 07:45:00    | 6                      | 138         | 0           | 0            | 0          | 144            | 0                        | 0           | 0           | 0            | 1          | 0              | 0            | 59          | 19          | 0            | 0          | 78             | 4            | 0           | 0           | 0            | 0          | 4              | 226                    | 836                  |  |
| 08:00:00    | 3                      | 113         | 0           | 0            | 0          | 116            | 0                        | 0           | 0           | 0            | 0          | 0              | 0            | 54          | 14          | 0            | 0          | 68             | 10           | 0           | 0           | 0            | 0          | 10             | 194                    | 808                  |  |
| 08:15:00    | 3                      | 137         | 0           | 0            | 0          | 140            | 0                        | 0           | 0           | 0            | 0          | 0              | 0            | 63          | 10          | 0            | 0          | 73             | 8            | 0           | 1           | 0            | 0          | 9              | 222                    | 860                  |  |
| 08:30:00    | 3                      | 109         | 0           | 0            | 0          | 112            | 0                        | 0           | 0           | 0            | 2          | 0              | 0            | 89          | 16          | 0            | 0          | 105            | 8            | 0           | 2           | 0            | 0          | 10             | 227                    | 869                  |  |
| 08:45:00    | 3                      | 116         | 0           | 0            | 0          | 119            | 1                        | 0           | 0           | 0            | 2          | 1              | 1            | 87          | 23          | 0            | 0          | 111            | 9            | 0           | 0           | 0            | 0          | 9              | 240                    | 883                  |  |
| ***BREAK*** |                        |             |             |              |            |                |                          |             |             |              |            |                |              |             |             |              |            |                |              |             |             |              |            |                |                        |                      |  |
| 16:00:00    | 0                      | 112         | 0           | 0            | 0          | 112            | 0                        | 0           | 1           | 0            | 2          | 1              | 0            | 118         | 3           | 0            | 0          | 121            | 11           | 0           | 1           | 0            | 0          | 12             | 246                    |                      |  |
| 16:15:00    | 0                      | 98          | 0           | 0            | 0          | 98             | 0                        | 0           | 1           | 0            | 0          | 1              | 0            | 98          | 7           | 0            | 0          | 105            | 10           | 0           | 2           | 0            | 0          | 12             | 216                    |                      |  |
| 16:30:00    | 1                      | 80          | 0           | 0            | 0          | 81             | 0                        | 0           | 0           | 0            | 0          | 0              | 0            | 115         | 2           | 0            | 0          | 117            | 24           | 0           | 6           | 0            | 0          | 30             | 228                    |                      |  |
| 16:45:00    | 1                      | 92          | 0           | 0            | 0          | 93             | 2                        | 0           | 4           | 0            | 0          | 6              | 0            | 106         | 1           | 0            | 0          | 107            | 4            | 0           | 1           | 0            | 5          | 5              | 211                    | 901                  |  |
| 17:00:00    | 0                      | 98          | 0           | 0            | 0          | 98             | 4                        | 0           | 5           | 0            | 0          | 9              | 0            | 111         | 0           | 0            | 0          | 111            | 8            | 0           | 0           | 0            | 3          | 8              | 226                    | 881                  |  |
| 17:15:00    | 0                      | 82          | 0           | 0            | 0          | 82             | 1                        | 0           | 3           | 0            | 1          | 4              | 0            | 106         | 4           | 0            | 0          | 110            | 7            | 0           | 1           | 0            | 1          | 8              | 204                    | 869                  |  |
| 17:30:00    | 0                      | 100         | 0           | 0            | 0          | 100            | 1                        | 0           | 3           | 0            | 2          | 4              | 0            | 106         | 5           | 0            | 0          | 111            | 11           | 0           | 0           | 0            | 8          | 11             | 226                    | 867                  |  |
| 17:45:00    | 1                      | 133         | 0           | 0            | 0          | 134            | 0                        | 0           | 0           | 0            | 3          | 0              | 0            | 92          | 3           | 0            | 0          | 95             | 6            | 0           | 0           | 0            | 8          | 6              | 235                    | 891                  |  |
| Grand Total | 24                     | 1715        | 0           | 0            | 0          | 1739           | 9                        | 0           | 18          | 0            | 14         | 27             | 7            | 1413        | 150         | 0            | 0          | 1570           | 159          | 0           | 16          | 0            | 27         | 175            | 3511                   | -                    |  |
| Approach%   | 1.4%                   | 98.6%       | 0%          | 0%           |            | -              | 33.3%                    | 0%          | 66.7%       | 0%           |            | -              | 0.4%         | 90%         | 9.6%        | 0%           |            | -              | 90.9%        | 0%          | 9.1%        | 0%           |            | -              | -                      | -                    |  |
| Totals %    | 0.7%                   | 48.8%       | 0%          | 0%           |            | 49.5%          | 0.3%                     | 0%          | 0.5%        | 0%           |            | 0.8%           | 0.2%         | 40.2%       | 4.3%        | 0%           |            | 44.7%          | 4.5%         | 0%          | 0.5%        | 0%           |            | 5%             | -                      | -                    |  |
| Heavy       | 2                      | 317         | 0           | 0            |            | -              | 0                        | 0           | 0           | 0            |            | -              | 1            | 145         | 25          | 0            |            | -              | 24           | 0           | 2           | 0            |            | -              | -                      | -                    |  |
| Heavy %     | 8.3%                   | 18.5%       | 0%          | 0%           |            | -              | 0%                       | 0%          | 0%          | 0%           |            | -              | 14.3%        | 10.3%       | 16.7%       | 0%           |            | -              | 15.1%        | 0%          | 12.5%       | 0%           |            | -              | -                      | -                    |  |
| Bicycles    | -                      | -           | -           | -            |            | -              | -                        | -           | -           | -            |            | -              | -            | -           | -           | -            |            | -              | -            | -           | -           | -            |            | -              | -                      | -                    |  |
| Bicycle %   | -                      | -           | -           | -            |            | -              | -                        | -           | -           | -            |            | -              | -            | -           | -           | -            |            | -              | -            | -           | -           | -            |            | -              | -                      | -                    |  |



Peak Hour: 08:00 AM - 09:00 AM Weather: Broken Clouds (4.48 °C)

| Start Time           | N Approach<br>DIXIE RD |       |      |       |      |                | E Approach<br>SPOKANE ST |      |      |       |      |                | S Approach |       |       |       |      |                | W Approach |      |       |       |      |                | Int. Total<br>(15 min) |
|----------------------|------------------------|-------|------|-------|------|----------------|--------------------------|------|------|-------|------|----------------|------------|-------|-------|-------|------|----------------|------------|------|-------|-------|------|----------------|------------------------|
|                      | Right                  | Thru  | Left | UTurn | Peds | Approach Total | Right                    | Thru | Left | UTurn | Peds | Approach Total | Right      | Thru  | Left  | UTurn | Peds | Approach Total | Right      | Thru | Left  | UTurn | Peds | Approach Total |                        |
| 08:00:00             | 3                      | 113   | 0    | 0     | 0    | 116            | 0                        | 0    | 0    | 0     | 0    | 0              | 0          | 54    | 14    | 0     | 0    | 68             | 10         | 0    | 0     | 0     | 0    | 10             | 194                    |
| 08:15:00             | 3                      | 137   | 0    | 0     | 0    | 140            | 0                        | 0    | 0    | 0     | 0    | 0              | 0          | 63    | 10    | 0     | 0    | 73             | 8          | 0    | 1     | 0     | 0    | 9              | 222                    |
| 08:30:00             | 3                      | 109   | 0    | 0     | 0    | 112            | 0                        | 0    | 0    | 0     | 2    | 0              | 0          | 89    | 16    | 0     | 0    | 105            | 8          | 0    | 2     | 0     | 0    | 10             | 227                    |
| 08:45:00             | 3                      | 116   | 0    | 0     | 0    | 119            | 1                        | 0    | 0    | 0     | 2    | 1              | 1          | 87    | 23    | 0     | 0    | 111            | 9          | 0    | 0     | 0     | 0    | 9              | 240                    |
| Grand Total          | 12                     | 475   | 0    | 0     | 0    | 487            | 1                        | 0    | 0    | 0     | 4    | 1              | 1          | 293   | 63    | 0     | 0    | 357            | 35         | 0    | 3     | 0     | 0    | 38             | 883                    |
| Approach%            | 2.5%                   | 97.5% | 0%   | 0%    |      | -              | 100%                     | 0%   | 0%   | 0%    |      | -              | 0.3%       | 82.1% | 17.6% | 0%    |      | -              | 92.1%      | 0%   | 7.9%  | 0%    |      | -              | -                      |
| Totals %             | 1.4%                   | 53.8% | 0%   | 0%    |      | 55.2%          | 0.1%                     | 0%   | 0%   | 0%    |      | 0.1%           | 0.1%       | 33.2% | 7.1%  | 0%    |      | 40.4%          | 4%         | 0%   | 0.3%  | 0%    |      | 4.3%           | -                      |
| PHF                  | 1                      | 0.87  | 0    | 0     |      | 0.87           | 0.25                     | 0    | 0    | 0     |      | 0.25           | 0.25       | 0.82  | 0.68  | 0     |      | 0.8            | 0.88       | 0    | 0.38  | 0     |      | 0.95           | -                      |
| Heavy                | 0                      | 127   | 0    | 0     |      | 127            | 0                        | 0    | 0    | 0     |      | 0              | 0          | 24    | 10    | 0     |      | 34             | 9          | 0    | 1     | 0     |      | 10             | -                      |
| Heavy %              | 0%                     | 26.7% | 0%   | 0%    |      | 26.1%          | 0%                       | 0%   | 0%   | 0%    |      | 0%             | 0%         | 8.2%  | 15.9% | 0%    |      | 9.5%           | 25.7%      | 0%   | 33.3% | 0%    |      | 26.3%          | -                      |
| Lights               | 12                     | 348   | 0    | 0     |      | 360            | 1                        | 0    | 0    | 0     |      | 1              | 1          | 269   | 53    | 0     |      | 323            | 26         | 0    | 2     | 0     |      | 28             | -                      |
| Lights %             | 100%                   | 73.3% | 0%   | 0%    |      | 73.9%          | 100%                     | 0%   | 0%   | 0%    |      | 100%           | 100%       | 91.8% | 84.1% | 0%    |      | 90.5%          | 74.3%      | 0%   | 66.7% | 0%    |      | 73.7%          | -                      |
| Single-Unit Trucks   | 0                      | 114   | 0    | 0     |      | 114            | 0                        | 0    | 0    | 0     |      | 0              | 0          | 12    | 7     | 0     |      | 19             | 6          | 0    | 1     | 0     |      | 7              | -                      |
| Single-Unit Trucks % | 0%                     | 24%   | 0%   | 0%    |      | 23.4%          | 0%                       | 0%   | 0%   | 0%    |      | 0%             | 0%         | 4.1%  | 11.1% | 0%    |      | 5.3%           | 17.1%      | 0%   | 33.3% | 0%    |      | 18.4%          | -                      |
| Buses                | 0                      | 1     | 0    | 0     |      | 1              | 0                        | 0    | 0    | 0     |      | 0              | 0          | 2     | 0     | 0     |      | 2              | 0          | 0    | 0     | 0     |      | 0              | -                      |
| Buses %              | 0%                     | 0.2%  | 0%   | 0%    |      | 0.2%           | 0%                       | 0%   | 0%   | 0%    |      | 0%             | 0%         | 0.7%  | 0%    | 0%    |      | 0.6%           | 0%         | 0%   | 0%    | 0%    |      | 0%             | -                      |
| Articulated Trucks   | 0                      | 12    | 0    | 0     |      | 12             | 0                        | 0    | 0    | 0     |      | 0              | 0          | 10    | 3     | 0     |      | 13             | 3          | 0    | 0     | 0     |      | 3              | -                      |
| Articulated Trucks % | 0%                     | 2.5%  | 0%   | 0%    |      | 2.5%           | 0%                       | 0%   | 0%   | 0%    |      | 0%             | 0%         | 3.4%  | 4.8%  | 0%    |      | 3.6%           | 8.6%       | 0%   | 0%    | 0%    |      | 7.9%           | -                      |
| Pedestrians          | -                      | -     | -    | -     | 0    | -              | -                        | -    | -    | -     | 4    | -              | -          | -     | -     | -     | 0    | -              | -          | -    | -     | -     | 0    | -              | -                      |
| Pedestrians%         | -                      | -     | -    | -     | 0%   | -              | -                        | -    | -    | -     | 100% | -              | -          | -     | -     | -     | 0%   | -              | -          | -    | -     | -     | 0%   | -              | -                      |

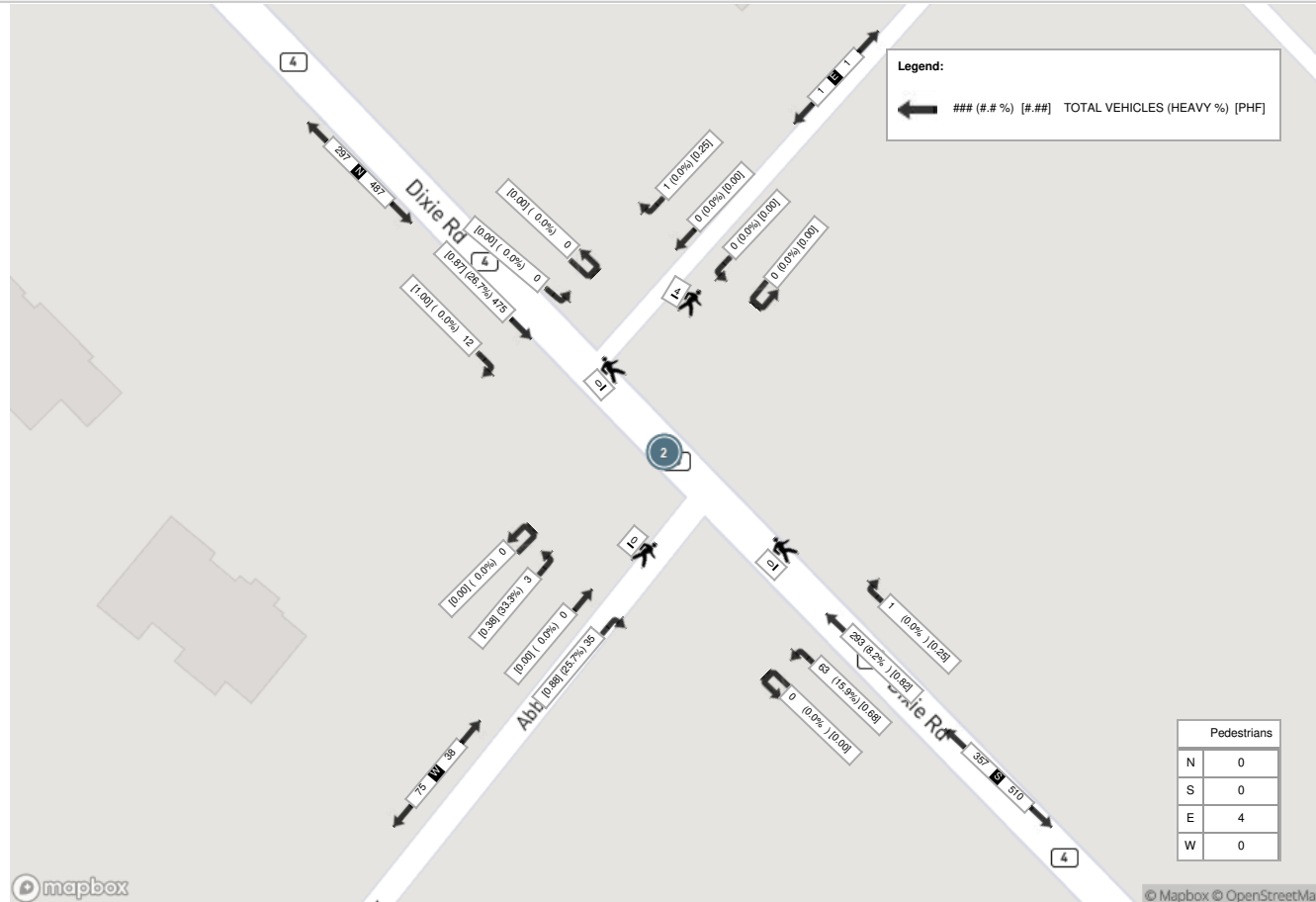




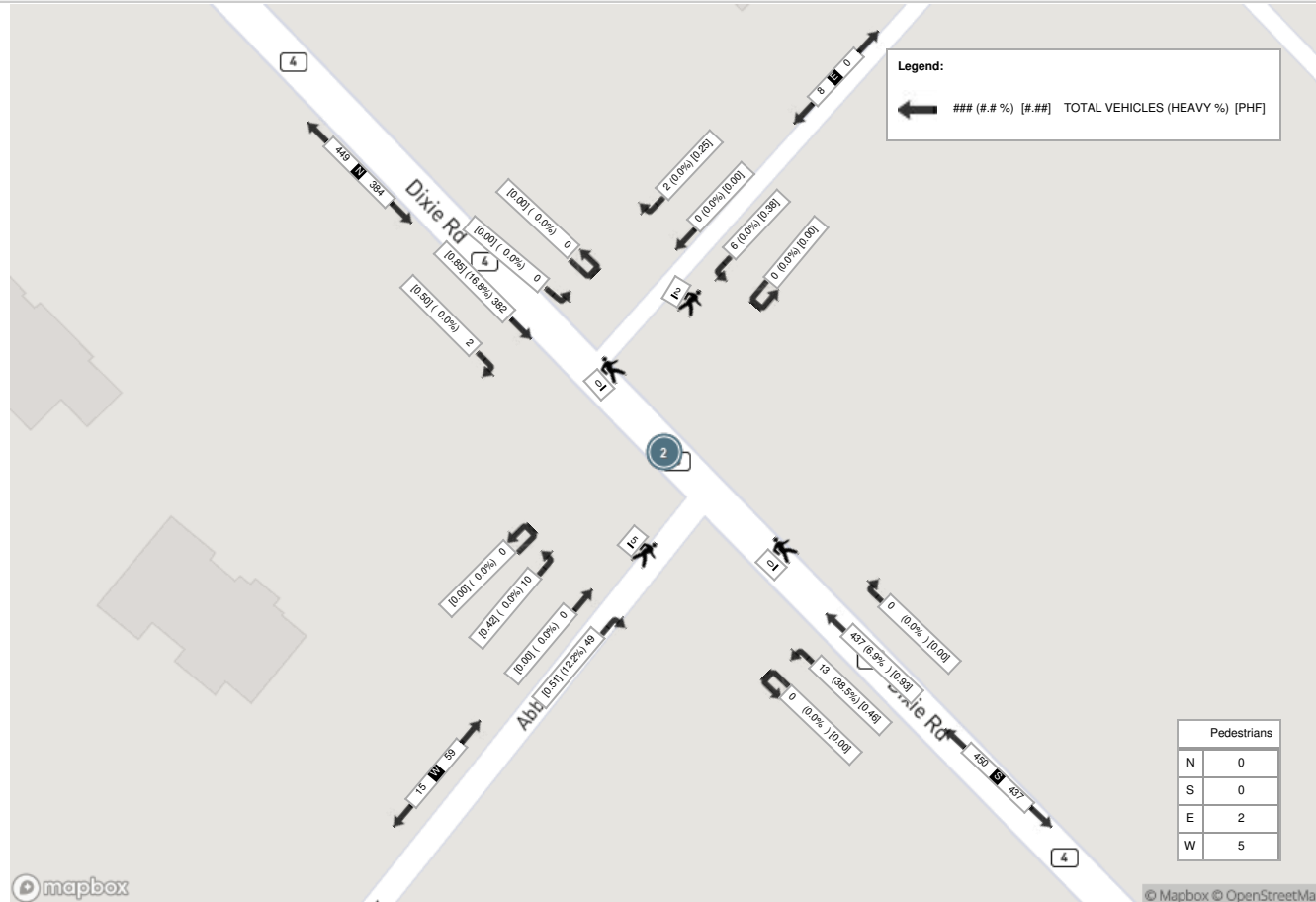
Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (7.51 °C)

| Start Time           | N Approach<br>DIXIE RD |       |      |       |      |                | E Approach<br>SPOKANE ST |      |      |       |       |                | S Approach |       |       |       |      |                | W Approach |      |       |       |       |                | Int. Total<br>(15 min) |
|----------------------|------------------------|-------|------|-------|------|----------------|--------------------------|------|------|-------|-------|----------------|------------|-------|-------|-------|------|----------------|------------|------|-------|-------|-------|----------------|------------------------|
|                      | Right                  | Thru  | Left | UTurn | Peds | Approach Total | Right                    | Thru | Left | UTurn | Peds  | Approach Total | Right      | Thru  | Left  | UTurn | Peds | Approach Total | Right      | Thru | Left  | UTurn | Peds  | Approach Total |                        |
| 16:00:00             | 0                      | 112   | 0    | 0     | 0    | 112            | 0                        | 0    | 1    | 0     | 2     | 1              | 0          | 118   | 3     | 0     | 0    | 121            | 11         | 0    | 1     | 0     | 0     | 12             | 246                    |
| 16:15:00             | 0                      | 98    | 0    | 0     | 0    | 98             | 0                        | 0    | 1    | 0     | 0     | 1              | 0          | 98    | 7     | 0     | 0    | 105            | 10         | 0    | 2     | 0     | 0     | 12             | 216                    |
| 16:30:00             | 1                      | 80    | 0    | 0     | 0    | 81             | 0                        | 0    | 0    | 0     | 0     | 0              | 0          | 115   | 2     | 0     | 0    | 117            | 24         | 0    | 6     | 0     | 0     | 30             | 228                    |
| 16:45:00             | 1                      | 92    | 0    | 0     | 0    | 93             | 2                        | 0    | 4    | 0     | 0     | 6              | 0          | 106   | 1     | 0     | 0    | 107            | 4          | 0    | 1     | 0     | 5     | 5              | 211                    |
| Grand Total          | 2                      | 382   | 0    | 0     | 0    | 384            | 2                        | 0    | 6    | 0     | 2     | 8              | 0          | 437   | 13    | 0     | 0    | 450            | 49         | 0    | 10    | 0     | 5     | 59             | 901                    |
| Approach%            | 0.5%                   | 99.5% | 0%   | 0%    |      | -              | 25%                      | 0%   | 75%  | 0%    |       | -              | 0%         | 97.1% | 2.9%  | 0%    |      | -              | 83.1%      | 0%   | 16.9% | 0%    |       | -              | -                      |
| Totals %             | 0.2%                   | 42.4% | 0%   | 0%    |      | 42.6%          | 0.2%                     | 0%   | 0.7% | 0%    |       | 0.9%           | 0%         | 48.5% | 1.4%  | 0%    |      | 49.9%          | 5.4%       | 0%   | 1.1%  | 0%    |       | 6.5%           | -                      |
| PHF                  | 0.5                    | 0.85  | 0    | 0     |      | 0.86           | 0.25                     | 0    | 0.38 | 0     |       | 0.33           | 0          | 0.93  | 0.46  | 0     |      | 0.93           | 0.51       | 0    | 0.42  | 0     |       | 0.49           | -                      |
| Heavy                | 0                      | 64    | 0    | 0     |      | 64             | 0                        | 0    | 0    | 0     |       | 0              | 0          | 30    | 5     | 0     |      | 35             | 6          | 0    | 0     | 0     |       | 6              | -                      |
| Heavy %              | 0%                     | 16.8% | 0%   | 0%    |      | 16.7%          | 0%                       | 0%   | 0%   | 0%    |       | 0%             | 0%         | 6.9%  | 38.5% | 0%    |      | 7.8%           | 12.2%      | 0%   | 0%    | 0%    |       | 10.2%          | -                      |
| Lights               | 2                      | 318   | 0    | 0     |      | 320            | 2                        | 0    | 6    | 0     |       | 8              | 0          | 407   | 8     | 0     |      | 415            | 43         | 0    | 10    | 0     |       | 53             | -                      |
| Lights %             | 100%                   | 83.2% | 0%   | 0%    |      | 83.3%          | 100%                     | 0%   | 100% | 0%    |       | 100%           | 0%         | 93.1% | 61.5% | 0%    |      | 92.2%          | 87.8%      | 0%   | 100%  | 0%    |       | 89.8%          | -                      |
| Single-Unit Trucks   | 0                      | 49    | 0    | 0     |      | 49             | 0                        | 0    | 0    | 0     |       | 0              | 0          | 10    | 3     | 0     |      | 13             | 4          | 0    | 0     | 0     |       | 4              | -                      |
| Single-Unit Trucks % | 0%                     | 12.8% | 0%   | 0%    |      | 12.8%          | 0%                       | 0%   | 0%   | 0%    |       | 0%             | 0%         | 2.3%  | 23.1% | 0%    |      | 2.9%           | 8.2%       | 0%   | 0%    | 0%    |       | 6.8%           | -                      |
| Buses                | 0                      | 4     | 0    | 0     |      | 4              | 0                        | 0    | 0    | 0     |       | 0              | 0          | 2     | 0     | 0     |      | 2              | 0          | 0    | 0     | 0     |       | 0              | -                      |
| Buses %              | 0%                     | 1%    | 0%   | 0%    |      | 1%             | 0%                       | 0%   | 0%   | 0%    |       | 0%             | 0%         | 0.5%  | 0%    | 0%    |      | 0.4%           | 0%         | 0%   | 0%    | 0%    |       | 0%             | -                      |
| Articulated Trucks   | 0                      | 11    | 0    | 0     |      | 11             | 0                        | 0    | 0    | 0     |       | 0              | 0          | 18    | 2     | 0     |      | 20             | 2          | 0    | 0     | 0     |       | 2              | -                      |
| Articulated Trucks % | 0%                     | 2.9%  | 0%   | 0%    |      | 2.9%           | 0%                       | 0%   | 0%   | 0%    |       | 0%             | 0%         | 4.1%  | 15.4% | 0%    |      | 4.4%           | 4.1%       | 0%   | 0%    | 0%    |       | 3.4%           | -                      |
| Pedestrians          | -                      | -     | -    | -     | 0    | -              | -                        | -    | -    | -     | 2     | -              | -          | -     | -     | -     | 0    | -              | -          | -    | -     | -     | 5     | -              | -                      |
| Pedestrians%         | -                      | -     | -    | -     | 0%   | -              | -                        | -    | -    | -     | 28.6% | -              | -          | -     | -     | -     | 0%   | -              | -          | -    | -     | -     | 71.4% | -              | -                      |

Peak Hour: 08:00 AM - 09:00 AM Weather: Broken Clouds (4.48 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (7.51 °C)





Turning Movement Count (1 . DIXIE RD & MAYFIELD RD) CustID: 00427526

| Start Time  | N Approach<br>DIXIE RD |             |             |              |            |                | E Approach<br>MAYFIELD RD |             |             |              |            |                | S Approach<br>DIXIE RD |             |             |              |            |                | W Approach<br>MAYFIELD RD |             |             |              |            |                | Int. Total<br>(15 min) | Int. Total<br>(1 hr) |
|-------------|------------------------|-------------|-------------|--------------|------------|----------------|---------------------------|-------------|-------------|--------------|------------|----------------|------------------------|-------------|-------------|--------------|------------|----------------|---------------------------|-------------|-------------|--------------|------------|----------------|------------------------|----------------------|
|             | Right<br>N:W           | Thru<br>N:S | Left<br>N:E | UTurn<br>N:N | Peds<br>N: | Approach Total | Right<br>E:N              | Thru<br>E:W | Left<br>E:S | UTurn<br>E:E | Peds<br>E: | Approach Total | Right<br>S:E           | Thru<br>S:N | Left<br>S:W | UTurn<br>S:S | Peds<br>S: | Approach Total | Right<br>W:S              | Thru<br>W:E | Left<br>W:N | UTurn<br>W:W | Peds<br>W: | Approach Total |                        |                      |
| 07:00:00    | 56                     | 48          | 20          | 0            | 1          | 124            | 5                         | 132         | 10          | 0            | 1          | 147            | 9                      | 9           | 11          | 0            | 2          | 29             | 35                        | 279         | 82          | 0            | 3          | 396            | 696                    |                      |
| 07:15:00    | 54                     | 47          | 10          | 0            | 1          | 111            | 8                         | 180         | 20          | 0            | 6          | 208            | 9                      | 18          | 23          | 0            | 0          | 50             | 47                        | 305         | 57          | 0            | 0          | 409            | 778                    |                      |
| 07:30:00    | 46                     | 45          | 13          | 0            | 0          | 104            | 10                        | 144         | 14          | 0            | 0          | 168            | 10                     | 21          | 24          | 0            | 3          | 55             | 67                        | 417         | 80          | 0            | 3          | 564            | 891                    |                      |
| 07:45:00    | 52                     | 73          | 18          | 0            | 1          | 143            | 9                         | 222         | 15          | 0            | 3          | 246            | 13                     | 30          | 33          | 0            | 1          | 76             | 79                        | 471         | 62          | 0            | 0          | 612            | 1077                   | 3442                 |
| 08:00:00    | 53                     | 60          | 12          | 0            | 0          | 125            | 9                         | 197         | 18          | 0            | 0          | 224            | 10                     | 30          | 30          | 1            | 2          | 71             | 64                        | 403         | 59          | 0            | 1          | 526            | 946                    | 3692                 |
| 08:15:00    | 64                     | 54          | 16          | 0            | 0          | 134            | 11                        | 181         | 15          | 0            | 0          | 207            | 10                     | 31          | 45          | 0            | 0          | 86             | 68                        | 321         | 61          | 0            | 1          | 450            | 877                    | 3791                 |
| 08:30:00    | 73                     | 49          | 12          | 0            | 1          | 134            | 24                        | 152         | 10          | 1            | 2          | 187            | 13                     | 32          | 44          | 0            | 0          | 89             | 79                        | 331         | 70          | 0            | 0          | 480            | 890                    | 3790                 |
| 08:45:00    | 60                     | 46          | 12          | 0            | 0          | 118            | 14                        | 143         | 10          | 0            | 1          | 167            | 17                     | 39          | 36          | 0            | 1          | 92             | 59                        | 316         | 75          | 0            | 0          | 450            | 827                    | 3540                 |
| ***BREAK*** |                        |             |             |              |            |                |                           |             |             |              |            |                |                        |             |             |              |            |                |                           |             |             |              |            |                |                        |                      |
| 16:00:00    | 77                     | 22          | 17          | 0            | 0          | 116            | 10                        | 291         | 14          | 0            | 3          | 315            | 16                     | 57          | 48          | 0            | 0          | 121            | 49                        | 296         | 65          | 0            | 0          | 410            | 962                    |                      |
| 16:15:00    | 72                     | 32          | 14          | 0            | 0          | 118            | 13                        | 280         | 14          | 0            | 0          | 307            | 18                     | 36          | 61          | 0            | 0          | 115            | 43                        | 300         | 63          | 0            | 0          | 406            | 946                    |                      |
| 16:30:00    | 67                     | 24          | 12          | 0            | 1          | 103            | 8                         | 295         | 14          | 0            | 1          | 317            | 14                     | 51          | 47          | 1            | 7          | 113            | 49                        | 331         | 67          | 0            | 4          | 447            | 980                    |                      |
| 16:45:00    | 79                     | 20          | 5           | 0            | 0          | 104            | 11                        | 311         | 7           | 1            | 0          | 330            | 14                     | 46          | 55          | 0            | 2          | 115            | 40                        | 279         | 49          | 1            | 2          | 369            | 918                    | 3806                 |
| 17:00:00    | 71                     | 29          | 6           | 0            | 0          | 106            | 12                        | 313         | 16          | 0            | 0          | 341            | 18                     | 37          | 54          | 0            | 3          | 109            | 36                        | 304         | 56          | 0            | 3          | 396            | 952                    | 3796                 |
| 17:15:00    | 72                     | 19          | 11          | 0            | 1          | 102            | 9                         | 299         | 13          | 1            | 2          | 322            | 13                     | 46          | 60          | 0            | 3          | 119            | 53                        | 273         | 63          | 0            | 2          | 389            | 932                    | 3782                 |
| 17:30:00    | 70                     | 27          | 12          | 0            | 2          | 109            | 5                         | 305         | 11          | 0            | 9          | 321            | 24                     | 33          | 55          | 0            | 11         | 112            | 49                        | 292         | 70          | 0            | 9          | 411            | 953                    | 3755                 |
| 17:45:00    | 91                     | 35          | 15          | 0            | 0          | 141            | 14                        | 322         | 14          | 0            | 2          | 350            | 13                     | 39          | 38          | 0            | 2          | 90             | 47                        | 250         | 40          | 1            | 2          | 338            | 919                    | 3756                 |
| Grand Total | 1057                   | 630         | 205         | 0            | 8          | 1892           | 172                       | 3767        | 215         | 3            | 30         | 4157           | 221                    | 555         | 664         | 2            | 37         | 1442           | 864                       | 5168        | 1019        | 2            | 30         | 7053           | 14544                  | -                    |
| Approach%   | 55.9%                  | 33.3%       | 10.8%       | 0%           | -          | -              | 4.1%                      | 90.6%       | 5.2%        | 0.1%         | -          | -              | 15.3%                  | 38.5%       | 46%         | 0.1%         | -          | -              | 12.3%                     | 73.3%       | 14.4%       | 0%           | -          | -              | -                      | -                    |
| Totals %    | 7.3%                   | 4.3%        | 1.4%        | 0%           | -          | 13%            | 1.2%                      | 25.9%       | 1.5%        | 0%           | -          | 28.6%          | 1.5%                   | 3.8%        | 4.6%        | 0%           | -          | 9.9%           | 5.9%                      | 35.5%       | 7%          | 0%           | -          | 48.5%          | -                      | -                    |
| Heavy       | 214                    | 63          | 64          | 0            | -          | -              | 32                        | 406         | 22          | 0            | -          | -              | 45                     | 44          | 23          | 0            | -          | -              | 23                        | 485         | 248         | 0            | -          | -              | -                      | -                    |
| Heavy %     | 20.2%                  | 10%         | 31.2%       | 0%           | -          | -              | 18.6%                     | 10.8%       | 10.2%       | 0%           | -          | -              | 20.4%                  | 7.9%        | 3.5%        | 0%           | -          | -              | 2.7%                      | 9.4%        | 24.3%       | 0%           | -          | -              | -                      | -                    |
| Bicycles    | -                      | -           | -           | -            | -          | -              | -                         | -           | -           | -            | -          | -              | -                      | -           | -           | -            | -          | -              | -                         | -           | -           | -            | -          | -              | -                      | -                    |
| Bicycle %   | -                      | -           | -           | -            | -          | -              | -                         | -           | -           | -            | -          | -              | -                      | -           | -           | -            | -          | -              | -                         | -           | -           | -            | -          | -              | -                      | -                    |



Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (4.48 °C)

| Start Time             | N Approach<br>DIXIE RD |       |       |       |      |                | E Approach<br>MAYFIELD RD |       |       |       |       |                | S Approach<br>DIXIE RD |       |       |       |      |                | W Approach<br>MAYFIELD RD |       |       |       |       |                | Int. Total<br>(15 min) |
|------------------------|------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|-------|----------------|------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|-------|----------------|------------------------|
|                        | Right                  | Thru  | Left  | UTurn | Peds | Approach Total | Right                     | Thru  | Left  | UTurn | Peds  | Approach Total | Right                  | Thru  | Left  | UTurn | Peds | Approach Total | Right                     | Thru  | Left  | UTurn | Peds  | Approach Total |                        |
| 07:30:00               | 46                     | 45    | 13    | 0     | 0    | 104            | 10                        | 144   | 14    | 0     | 0     | 168            | 10                     | 21    | 24    | 0     | 3    | 55             | 67                        | 417   | 80    | 0     | 3     | 564            | 891                    |
| 07:45:00               | 52                     | 73    | 18    | 0     | 1    | 143            | 9                         | 222   | 15    | 0     | 3     | 246            | 13                     | 30    | 33    | 0     | 1    | 76             | 79                        | 471   | 62    | 0     | 0     | 612            | 1077                   |
| 08:00:00               | 53                     | 60    | 12    | 0     | 0    | 125            | 9                         | 197   | 18    | 0     | 0     | 224            | 10                     | 30    | 30    | 1     | 2    | 71             | 64                        | 403   | 59    | 0     | 1     | 526            | 946                    |
| 08:15:00               | 64                     | 54    | 16    | 0     | 0    | 134            | 11                        | 181   | 15    | 0     | 0     | 207            | 10                     | 31    | 45    | 0     | 0    | 86             | 68                        | 321   | 61    | 0     | 1     | 450            | 877                    |
| Grand Total            | 215                    | 232   | 59    | 0     | 1    | 506            | 39                        | 744   | 62    | 0     | 3     | 845            | 43                     | 112   | 132   | 1     | 6    | 288            | 278                       | 1612  | 262   | 0     | 5     | 2152           | 3791                   |
| Approach%              | 42.5%                  | 45.8% | 11.7% | 0%    |      | -              | 4.6%                      | 88%   | 7.3%  | 0%    |       | -              | 14.9%                  | 38.9% | 45.8% | 0.3%  |      | -              | 12.9%                     | 74.9% | 12.2% | 0%    |       | -              | -                      |
| Totals %               | 5.7%                   | 6.1%  | 1.6%  | 0%    |      | 13.3%          | 1%                        | 19.6% | 1.6%  | 0%    |       | 22.3%          | 1.1%                   | 3%    | 3.5%  | 0%    |      | 7.6%           | 7.3%                      | 42.5% | 6.9%  | 0%    |       | 56.8%          | -                      |
| PHF                    | 0.84                   | 0.79  | 0.82  | 0     |      | 0.88           | 0.89                      | 0.84  | 0.86  | 0     |       | 0.86           | 0.83                   | 0.9   | 0.73  | 0.25  |      | 0.84           | 0.88                      | 0.86  | 0.82  | 0     |       | 0.88           | -                      |
| Heavy                  | 61                     | 35    | 24    | 0     |      | 120            | 8                         | 118   | 10    | 0     |       | 136            | 11                     | 22    | 10    | 0     |      | 43             | 3                         | 130   | 93    | 0     |       | 226            | -                      |
| Heavy %                | 28.4%                  | 15.1% | 40.7% | 0%    |      | 23.7%          | 20.5%                     | 15.9% | 16.1% | 0%    |       | 16.1%          | 25.6%                  | 19.6% | 7.6%  | 0%    |      | 14.9%          | 1.1%                      | 8.1%  | 35.5% | 0%    |       | 10.5%          | -                      |
| Lights                 | 154                    | 197   | 35    | 0     |      | 386            | 31                        | 626   | 52    | 0     |       | 709            | 32                     | 90    | 122   | 1     |      | 245            | 275                       | 1482  | 169   | 0     |       | 1926           | -                      |
| Lights %               | 71.6%                  | 84.9% | 59.3% | 0%    |      | 76.3%          | 79.5%                     | 84.1% | 83.9% | 0%    |       | 83.9%          | 74.4%                  | 80.4% | 92.4% | 100%  |      | 85.1%          | 98.9%                     | 91.9% | 64.5% | 0%    |       | 89.5%          | -                      |
| Single-Unit Trucks     | 45                     | 28    | 12    | 0     |      | 85             | 6                         | 31    | 5     | 0     |       | 42             | 1                      | 20    | 2     | 0     |      | 23             | 2                         | 47    | 84    | 0     |       | 133            | -                      |
| Single-Unit Trucks %   | 20.9%                  | 12.1% | 20.3% | 0%    |      | 16.8%          | 15.4%                     | 4.2%  | 8.1%  | 0%    |       | 5%             | 2.3%                   | 17.9% | 1.5%  | 0%    |      | 8%             | 0.7%                      | 2.9%  | 32.1% | 0%    |       | 6.2%           | -                      |
| Buses                  | 0                      | 5     | 10    | 0     |      | 15             | 1                         | 20    | 3     | 0     |       | 24             | 9                      | 2     | 8     | 0     |      | 19             | 1                         | 28    | 0     | 0     |       | 29             | -                      |
| Buses %                | 0%                     | 2.2%  | 16.9% | 0%    |      | 3%             | 2.6%                      | 2.7%  | 4.8%  | 0%    |       | 2.8%           | 20.9%                  | 1.8%  | 6.1%  | 0%    |      | 6.6%           | 0.4%                      | 1.7%  | 0%    | 0%    |       | 1.3%           | -                      |
| Articulated Trucks     | 16                     | 2     | 2     | 0     |      | 20             | 1                         | 67    | 2     | 0     |       | 70             | 1                      | 0     | 0     | 0     |      | 1              | 0                         | 55    | 9     | 0     |       | 64             | -                      |
| Articulated Trucks %   | 7.4%                   | 0.9%  | 3.4%  | 0%    |      | 4%             | 2.6%                      | 9%    | 3.2%  | 0%    |       | 8.3%           | 2.3%                   | 0%    | 0%    | 0%    |      | 0.3%           | 0%                        | 3.4%  | 3.4%  | 0%    |       | 3%             | -                      |
| Pedestrians            | -                      | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 2     | -              | -                      | -     | -     | -     | 6    | -              | -                         | -     | -     | -     | 5     | -              | -                      |
| Pedestrians%           | -                      | -     | -     | -     | 0%   | -              | -                         | -     | -     | -     | 13.3% | -              | -                      | -     | -     | -     | 40%  | -              | -                         | -     | -     | -     | 33.3% | -              | -                      |
| Bicycles on Crosswalk  | -                      | -     | -     | -     | 1    | -              | -                         | -     | -     | -     | 1     | -              | -                      | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 0     | -              | -                      |
| Bicycles on Crosswalk% | -                      | -     | -     | -     | 6.7% | -              | -                         | -     | -     | -     | 6.7%  | -              | -                      | -     | -     | -     | 0%   | -              | -                         | -     | -     | -     | 0%    | -              | -                      |



Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (7.51 °C)

| Start Time             | N Approach<br>DIXIE RD |       |       |       |      |                | E Approach<br>MAYFIELD RD |       |      |       |      |                | S Approach<br>DIXIE RD |       |       |       |      |                | W Approach<br>MAYFIELD RD |       |       |       |      |                | Int. Total<br>(15 min) |
|------------------------|------------------------|-------|-------|-------|------|----------------|---------------------------|-------|------|-------|------|----------------|------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|------|----------------|------------------------|
|                        | Right                  | Thru  | Left  | UTurn | Peds | Approach Total | Right                     | Thru  | Left | UTurn | Peds | Approach Total | Right                  | Thru  | Left  | UTurn | Peds | Approach Total | Right                     | Thru  | Left  | UTurn | Peds | Approach Total |                        |
| 16:00:00               | 77                     | 22    | 17    | 0     | 0    | 116            | 10                        | 291   | 14   | 0     | 3    | 315            | 16                     | 57    | 48    | 0     | 0    | 121            | 49                        | 296   | 65    | 0     | 0    | 410            | 962                    |
| 16:15:00               | 72                     | 32    | 14    | 0     | 0    | 118            | 13                        | 280   | 14   | 0     | 0    | 307            | 18                     | 36    | 61    | 0     | 0    | 115            | 43                        | 300   | 63    | 0     | 0    | 406            | 946                    |
| 16:30:00               | 67                     | 24    | 12    | 0     | 1    | 103            | 8                         | 295   | 14   | 0     | 1    | 317            | 14                     | 51    | 47    | 1     | 7    | 113            | 49                        | 331   | 67    | 0     | 4    | 447            | 980                    |
| 16:45:00               | 79                     | 20    | 5     | 0     | 0    | 104            | 11                        | 311   | 7    | 1     | 0    | 330            | 14                     | 46    | 55    | 0     | 2    | 115            | 40                        | 279   | 49    | 1     | 2    | 369            | 918                    |
| Grand Total            | 295                    | 98    | 48    | 0     | 1    | 441            | 42                        | 1177  | 49   | 1     | 4    | 1269           | 62                     | 190   | 211   | 1     | 9    | 464            | 181                       | 1206  | 244   | 1     | 6    | 1632           | 3806                   |
| Approach%              | 66.9%                  | 22.2% | 10.9% | 0%    |      | -              | 3.3%                      | 92.8% | 3.9% | 0.1%  |      | -              | 13.4%                  | 40.9% | 45.5% | 0.2%  |      | -              | 11.1%                     | 73.9% | 15%   | 0.1%  |      | -              | -                      |
| Totals %               | 7.8%                   | 2.6%  | 1.3%  | 0%    |      | 11.6%          | 1.1%                      | 30.9% | 1.3% | 0%    |      | 33.3%          | 1.6%                   | 5%    | 5.5%  | 0%    |      | 12.2%          | 4.8%                      | 31.7% | 6.4%  | 0%    |      | 42.9%          | -                      |
| PHF                    | 0.93                   | 0.77  | 0.71  | 0     |      | 0.93           | 0.81                      | 0.95  | 0.88 | 0.25  |      | 0.96           | 0.86                   | 0.83  | 0.86  | 0.25  |      | 0.96           | 0.92                      | 0.91  | 0.91  | 0.25  |      | 0.91           | -                      |
| Heavy                  | 48                     | 8     | 13    | 0     |      | 69             | 8                         | 86    | 1    | 0     |      | 95             | 14                     | 3     | 7     | 0     |      | 24             | 11                        | 155   | 41    | 0     |      | 207            | -                      |
| Heavy %                | 16.3%                  | 8.2%  | 27.1% | 0%    |      | 15.6%          | 19%                       | 7.3%  | 2%   | 0%    |      | 7.5%           | 22.6%                  | 1.6%  | 3.3%  | 0%    |      | 5.2%           | 6.1%                      | 12.9% | 16.8% | 0%    |      | 12.7%          | -                      |
| Lights                 | 247                    | 90    | 35    | 0     |      | 372            | 34                        | 1091  | 48   | 1     |      | 1174           | 48                     | 187   | 204   | 1     |      | 440            | 170                       | 1051  | 203   | 1     |      | 1425           | -                      |
| Lights %               | 83.7%                  | 91.8% | 72.9% | 0%    |      | 84.4%          | 81%                       | 92.7% | 98%  | 100%  |      | 92.5%          | 77.4%                  | 98.4% | 96.7% | 100%  |      | 94.8%          | 93.9%                     | 87.1% | 83.2% | 100%  |      | 87.3%          | -                      |
| Single-Unit Trucks     | 35                     | 5     | 13    | 0     |      | 53             | 2                         | 41    | 0    | 0     |      | 43             | 3                      | 2     | 0     | 0     |      | 5              | 1                         | 61    | 26    | 0     |      | 88             | -                      |
| Single-Unit Trucks %   | 11.9%                  | 5.1%  | 27.1% | 0%    |      | 12%            | 4.8%                      | 3.5%  | 0%   | 0%    |      | 3.4%           | 4.8%                   | 1.1%  | 0%    | 0%    |      | 1.1%           | 0.6%                      | 5.1%  | 10.7% | 0%    |      | 5.4%           | -                      |
| Buses                  | 2                      | 1     | 0     | 0     |      | 3              | 1                         | 7     | 1    | 0     |      | 9              | 8                      | 1     | 6     | 0     |      | 15             | 10                        | 31    | 0     | 0     |      | 41             | -                      |
| Buses %                | 0.7%                   | 1%    | 0%    | 0%    |      | 0.7%           | 2.4%                      | 0.6%  | 2%   | 0%    |      | 0.7%           | 12.9%                  | 0.5%  | 2.8%  | 0%    |      | 3.2%           | 5.5%                      | 2.6%  | 0%    | 0%    |      | 2.5%           | -                      |
| Articulated Trucks     | 11                     | 2     | 0     | 0     |      | 13             | 5                         | 38    | 0    | 0     |      | 43             | 3                      | 0     | 1     | 0     |      | 4              | 0                         | 63    | 15    | 0     |      | 78             | -                      |
| Articulated Trucks %   | 3.7%                   | 2%    | 0%    | 0%    |      | 2.9%           | 11.9%                     | 3.2%  | 0%   | 0%    |      | 3.4%           | 4.8%                   | 0%    | 0.5%  | 0%    |      | 0.9%           | 0%                        | 5.2%  | 6.1%  | 0%    |      | 4.8%           | -                      |
| Pedestrians            | -                      | -     | -     | -     | 1    | -              | -                         | -     | -    | -     | 4    | -              | -                      | -     | -     | -     | 8    | -              | -                         | -     | -     | -     | 6    | -              | -                      |
| Pedestrians%           | -                      | -     | -     | -     | 5%   | -              | -                         | -     | -    | -     | 20%  | -              | -                      | -     | -     | -     | 40%  | -              | -                         | -     | -     | -     | 30%  | -              | -                      |
| Bicycles on Crosswalk  | -                      | -     | -     | -     | 0    | -              | -                         | -     | -    | -     | 0    | -              | -                      | -     | -     | -     | 1    | -              | -                         | -     | -     | -     | 0    | -              | -                      |
| Bicycles on Crosswalk% | -                      | -     | -     | -     | 0%   | -              | -                         | -     | -    | -     | 0%   | -              | -                      | -     | -     | -     | 5%   | -              | -                         | -     | -     | -     | 0%   | -              | -                      |



Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (4.48 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (7.51 °C)





Turning Movement Count (7 . DIXIE RD & OLD SCHOOL RD) CustID: 00430603

| Start Time  | N Approach<br>DIXIE RD |             |             |              |            |                | E Approach<br>OLD SCHOOL RD |             |             |              |            |                | S Approach<br>DIXIE RD |             |             |              |            |                | W Approach<br>OLD SCHOOL RD |             |             |              |            |                | Int. Total<br>(15 min) | Int. Total<br>(1 hr) |  |
|-------------|------------------------|-------------|-------------|--------------|------------|----------------|-----------------------------|-------------|-------------|--------------|------------|----------------|------------------------|-------------|-------------|--------------|------------|----------------|-----------------------------|-------------|-------------|--------------|------------|----------------|------------------------|----------------------|--|
|             | Right<br>N:W           | Thru<br>N:S | Left<br>N:E | UTurn<br>N:N | Peds<br>N: | Approach Total | Right<br>E:N                | Thru<br>E:W | Left<br>E:S | UTurn<br>E:E | Peds<br>E: | Approach Total | Right<br>S:E           | Thru<br>S:N | Left<br>S:W | UTurn<br>S:S | Peds<br>S: | Approach Total | Right<br>W:S                | Thru<br>W:E | Left<br>W:N | UTurn<br>W:W | Peds<br>W: | Approach Total |                        |                      |  |
| 07:00:00    | 5                      | 88          | 0           | 0            | 0          | 93             | 0                           | 18          | 6           | 0            | 0          | 24             | 8                      | 54          | 2           | 0            | 0          | 64             | 5                           | 52          | 10          | 0            | 0          | 67             | 248                    |                      |  |
| 07:15:00    | 6                      | 78          | 0           | 0            | 0          | 84             | 0                           | 19          | 7           | 0            | 0          | 26             | 6                      | 39          | 1           | 0            | 0          | 46             | 5                           | 63          | 9           | 0            | 0          | 77             | 233                    |                      |  |
| 07:30:00    | 12                     | 92          | 7           | 0            | 0          | 111            | 0                           | 30          | 5           | 0            | 0          | 35             | 6                      | 49          | 3           | 0            | 0          | 58             | 13                          | 77          | 5           | 0            | 0          | 95             | 299                    |                      |  |
| 07:45:00    | 16                     | 91          | 11          | 0            | 0          | 118            | 2                           | 27          | 16          | 0            | 0          | 45             | 4                      | 33          | 6           | 0            | 0          | 43             | 8                           | 103         | 11          | 0            | 1          | 122            | 328                    | 1108                 |  |
| 08:00:00    | 18                     | 81          | 1           | 0            | 0          | 100            | 6                           | 39          | 5           | 0            | 0          | 50             | 5                      | 22          | 0           | 0            | 0          | 27             | 5                           | 58          | 9           | 0            | 0          | 72             | 249                    | 1109                 |  |
| 08:15:00    | 14                     | 82          | 0           | 0            | 0          | 96             | 2                           | 35          | 4           | 0            | 0          | 41             | 4                      | 41          | 3           | 0            | 0          | 48             | 10                          | 72          | 13          | 0            | 0          | 95             | 280                    | 1156                 |  |
| 08:30:00    | 11                     | 60          | 1           | 0            | 0          | 72             | 1                           | 16          | 3           | 0            | 0          | 20             | 3                      | 33          | 2           | 0            | 0          | 38             | 12                          | 70          | 4           | 0            | 0          | 86             | 216                    | 1073                 |  |
| 08:45:00    | 6                      | 59          | 3           | 0            | 0          | 68             | 0                           | 15          | 6           | 0            | 0          | 21             | 2                      | 43          | 2           | 0            | 0          | 47             | 6                           | 64          | 4           | 0            | 0          | 74             | 210                    | 955                  |  |
| ***BREAK*** |                        |             |             |              |            |                |                             |             |             |              |            |                |                        |             |             |              |            |                |                             |             |             |              |            |                |                        |                      |  |
| 16:00:00    | 11                     | 54          | 1           | 0            | 0          | 66             | 1                           | 80          | 16          | 0            | 0          | 97             | 2                      | 91          | 13          | 0            | 1          | 106            | 4                           | 28          | 7           | 0            | 1          | 39             | 308                    |                      |  |
| 16:15:00    | 6                      | 63          | 2           | 0            | 0          | 71             | 6                           | 97          | 16          | 0            | 0          | 119            | 8                      | 85          | 7           | 0            | 0          | 100            | 4                           | 27          | 8           | 0            | 0          | 39             | 329                    |                      |  |
| 16:30:00    | 7                      | 54          | 3           | 0            | 0          | 64             | 0                           | 65          | 11          | 0            | 0          | 76             | 12                     | 87          | 7           | 0            | 0          | 106            | 6                           | 37          | 9           | 0            | 0          | 52             | 298                    |                      |  |
| 16:45:00    | 8                      | 69          | 1           | 0            | 0          | 78             | 1                           | 78          | 12          | 0            | 0          | 91             | 3                      | 80          | 6           | 0            | 0          | 89             | 5                           | 39          | 9           | 0            | 0          | 53             | 311                    | 1246                 |  |
| 17:00:00    | 11                     | 73          | 1           | 0            | 0          | 85             | 6                           | 82          | 10          | 0            | 0          | 98             | 5                      | 76          | 5           | 0            | 0          | 86             | 3                           | 32          | 6           | 0            | 0          | 41             | 310                    | 1248                 |  |
| 17:15:00    | 8                      | 56          | 0           | 0            | 0          | 64             | 5                           | 87          | 10          | 0            | 0          | 102            | 6                      | 77          | 6           | 0            | 0          | 89             | 3                           | 33          | 7           | 0            | 0          | 43             | 298                    | 1217                 |  |
| 17:30:00    | 8                      | 68          | 1           | 0            | 0          | 77             | 0                           | 70          | 14          | 0            | 0          | 84             | 8                      | 57          | 7           | 0            | 0          | 72             | 4                           | 47          | 4           | 0            | 0          | 55             | 288                    | 1207                 |  |
| 17:45:00    | 11                     | 88          | 1           | 0            | 0          | 100            | 2                           | 64          | 12          | 0            | 0          | 78             | 5                      | 45          | 8           | 0            | 0          | 58             | 6                           | 36          | 2           | 0            | 0          | 44             | 280                    | 1176                 |  |
| Grand Total | 158                    | 1156        | 33          | 0            | 0          | 1347           | 32                          | 822         | 153         | 0            | 0          | 1007           | 87                     | 912         | 78          | 0            | 1          | 1077           | 99                          | 838         | 117         | 0            | 2          | 1054           | 4485                   | -                    |  |
| Approach%   | 11.7%                  | 85.8%       | 2.4%        | 0%           |            | -              | 3.2%                        | 81.6%       | 15.2%       | 0%           |            | -              | 8.1%                   | 84.7%       | 7.2%        | 0%           |            | -              | 9.4%                        | 79.5%       | 11.1%       | 0%           |            | -              | -                      | -                    |  |
| Totals %    | 3.5%                   | 25.8%       | 0.7%        | 0%           |            | 30%            | 0.7%                        | 18.3%       | 3.4%        | 0%           |            | 22.5%          | 1.9%                   | 20.3%       | 1.7%        | 0%           |            | 24%            | 2.2%                        | 18.7%       | 2.6%        | 0%           |            | 23.5%          | -                      | -                    |  |
| Heavy       | 9                      | 107         | 4           | 0            |            | -              | 3                           | 25          | 1           | 0            |            | -              | 12                     | 48          | 2           | 0            |            | -              | 12                          | 16          | 7           | 0            |            | -              | -                      | -                    |  |
| Heavy %     | 5.7%                   | 9.3%        | 12.1%       | 0%           |            | -              | 9.4%                        | 3%          | 0.7%        | 0%           |            | -              | 13.8%                  | 5.3%        | 2.6%        | 0%           |            | -              | 12.1%                       | 1.9%        | 6%          | 0%           |            | -              | -                      | -                    |  |
| Bicycles    | 0                      | 0           | 0           | 0            |            | -              | 0                           | 1           | 0           | 0            |            | -              | 0                      | 0           | 0           | 0            |            | -              | 0                           | 0           | 0           | 0            |            | -              | -                      | -                    |  |
| Bicycle %   | 0%                     | 0%          | 0%          | 0%           |            | -              | 0%                          | 0.1%        | 0%          | 0%           |            | -              | 0%                     | 0%          | 0%          | 0%           |            | -              | 0%                          | 0%          | 0%          | 0%           |            | -              | -                      | -                    |  |



Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (4.48 °C)

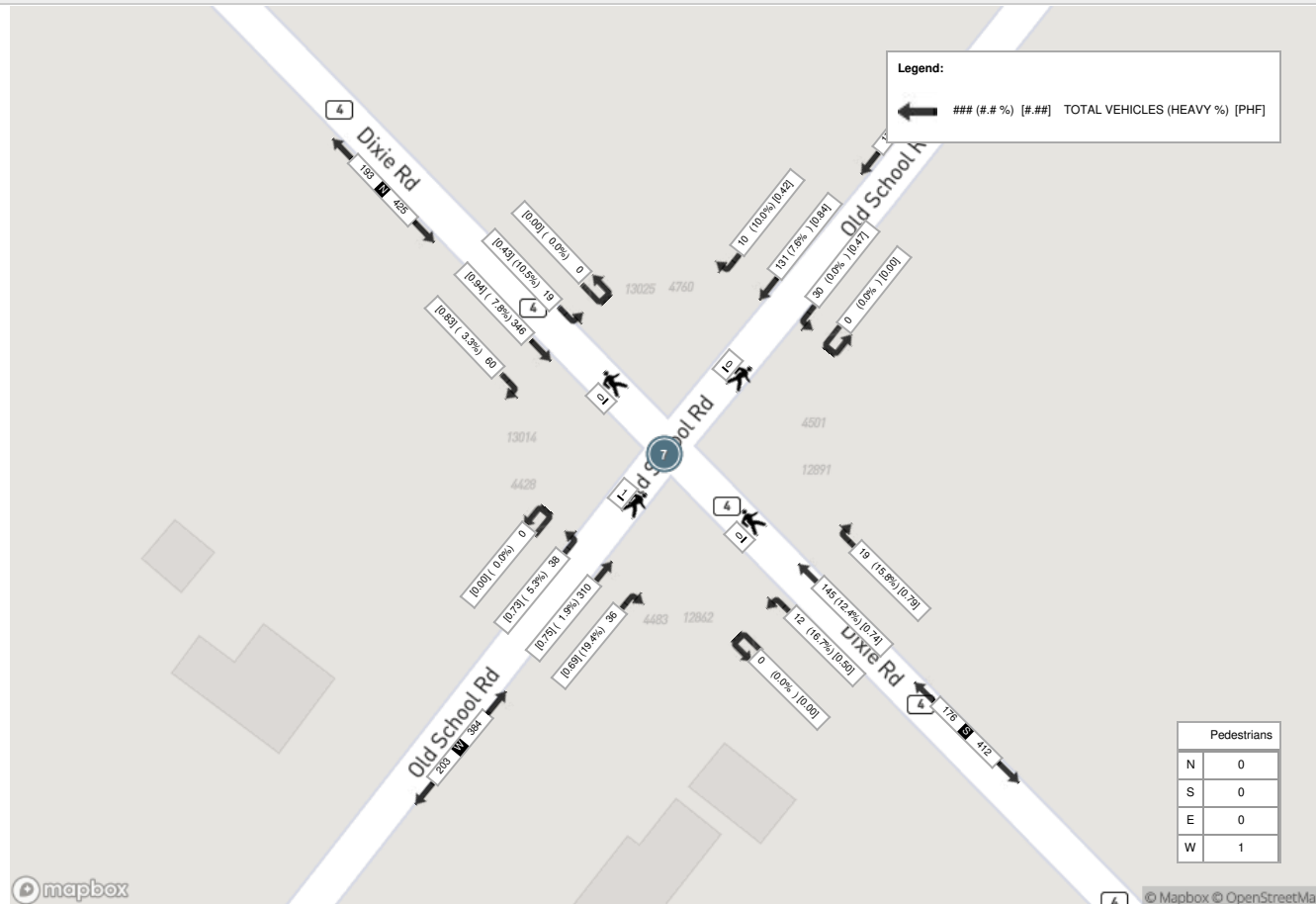
| Start Time           | N Approach<br>DIXIE RD |       |       |       |      |                | E Approach<br>OLD SCHOOL RD |       |       |       |      |                | S Approach<br>DIXIE RD |       |       |       |      |                | W Approach<br>OLD SCHOOL RD |       |       |       |      |                | Int. Total<br>(15 min) |
|----------------------|------------------------|-------|-------|-------|------|----------------|-----------------------------|-------|-------|-------|------|----------------|------------------------|-------|-------|-------|------|----------------|-----------------------------|-------|-------|-------|------|----------------|------------------------|
|                      | Right                  | Thru  | Left  | UTurn | Peds | Approach Total | Right                       | Thru  | Left  | UTurn | Peds | Approach Total | Right                  | Thru  | Left  | UTurn | Peds | Approach Total | Right                       | Thru  | Left  | UTurn | Peds | Approach Total |                        |
| 07:30:00             | 12                     | 92    | 7     | 0     | 0    | 111            | 0                           | 30    | 5     | 0     | 0    | 35             | 6                      | 49    | 3     | 0     | 0    | 58             | 13                          | 77    | 5     | 0     | 0    | 95             | 299                    |
| 07:45:00             | 16                     | 91    | 11    | 0     | 0    | 118            | 2                           | 27    | 16    | 0     | 0    | 45             | 4                      | 33    | 6     | 0     | 0    | 43             | 8                           | 103   | 11    | 0     | 1    | 122            | 328                    |
| 08:00:00             | 18                     | 81    | 1     | 0     | 0    | 100            | 6                           | 39    | 5     | 0     | 0    | 50             | 5                      | 22    | 0     | 0     | 0    | 27             | 5                           | 58    | 9     | 0     | 0    | 72             | 249                    |
| 08:15:00             | 14                     | 82    | 0     | 0     | 0    | 96             | 2                           | 35    | 4     | 0     | 0    | 41             | 4                      | 41    | 3     | 0     | 0    | 48             | 10                          | 72    | 13    | 0     | 0    | 95             | 280                    |
| Grand Total          | 60                     | 346   | 19    | 0     | 0    | 425            | 10                          | 131   | 30    | 0     | 0    | 171            | 19                     | 145   | 12    | 0     | 0    | 176            | 36                          | 310   | 38    | 0     | 1    | 384            | 1156                   |
| Approach%            | 14.1%                  | 81.4% | 4.5%  | 0%    |      | -              | 5.8%                        | 76.6% | 17.5% | 0%    |      | -              | 10.8%                  | 82.4% | 6.8%  | 0%    |      | -              | 9.4%                        | 80.7% | 9.9%  | 0%    |      | -              | -                      |
| Totals %             | 5.2%                   | 29.9% | 1.6%  | 0%    |      | 36.8%          | 0.9%                        | 11.3% | 2.6%  | 0%    |      | 14.8%          | 1.6%                   | 12.5% | 1%    | 0%    |      | 15.2%          | 3.1%                        | 26.8% | 3.3%  | 0%    |      | 33.2%          | -                      |
| PHF                  | 0.83                   | 0.94  | 0.43  | 0     |      | 0.9            | 0.42                        | 0.84  | 0.47  | 0     |      | 0.86           | 0.79                   | 0.74  | 0.5   | 0     |      | 0.76           | 0.69                        | 0.75  | 0.73  | 0     |      | 0.79           | -                      |
| Heavy                | 2                      | 27    | 2     | 0     |      | 31             | 1                           | 10    | 0     | 0     |      | 11             | 3                      | 18    | 2     | 0     |      | 23             | 7                           | 6     | 2     | 0     |      | 15             | -                      |
| Heavy %              | 3.3%                   | 7.8%  | 10.5% | 0%    |      | 7.3%           | 10%                         | 7.6%  | 0%    | 0%    |      | 6.4%           | 15.8%                  | 12.4% | 16.7% | 0%    |      | 13.1%          | 19.4%                       | 1.9%  | 5.3%  | 0%    |      | 3.9%           | -                      |
| Lights               | 58                     | 319   | 17    | 0     |      | 394            | 9                           | 121   | 30    | 0     |      | 160            | 16                     | 127   | 10    | 0     |      | 153            | 29                          | 304   | 36    | 0     |      | 369            | -                      |
| Lights %             | 96.7%                  | 92.2% | 89.5% | 0%    |      | 92.7%          | 90%                         | 92.4% | 100%  | 0%    |      | 93.6%          | 84.2%                  | 87.6% | 83.3% | 0%    |      | 86.9%          | 80.6%                       | 98.1% | 94.7% | 0%    |      | 96.1%          | -                      |
| Single-Unit Trucks   | 0                      | 12    | 0     | 0     |      | 12             | 1                           | 2     | 0     | 0     |      | 3              | 1                      | 16    | 0     | 0     |      | 17             | 1                           | 1     | 0     | 0     |      | 2              | -                      |
| Single-Unit Trucks % | 0%                     | 3.5%  | 0%    | 0%    |      | 2.8%           | 10%                         | 1.5%  | 0%    | 0%    |      | 1.8%           | 5.3%                   | 11%   | 0%    | 0%    |      | 9.7%           | 2.8%                        | 0.3%  | 0%    | 0%    |      | 0.5%           | -                      |
| Buses                | 2                      | 8     | 2     | 0     |      | 12             | 0                           | 8     | 0     | 0     |      | 8              | 1                      | 1     | 2     | 0     |      | 4              | 6                           | 5     | 1     | 0     |      | 12             | -                      |
| Buses %              | 3.3%                   | 2.3%  | 10.5% | 0%    |      | 2.8%           | 0%                          | 6.1%  | 0%    | 0%    |      | 4.7%           | 5.3%                   | 0.7%  | 16.7% | 0%    |      | 2.3%           | 16.7%                       | 1.6%  | 2.6%  | 0%    |      | 3.1%           | -                      |
| Articulated Trucks   | 0                      | 7     | 0     | 0     |      | 7              | 0                           | 0     | 0     | 0     |      | 0              | 1                      | 1     | 0     | 0     |      | 2              | 0                           | 0     | 1     | 0     |      | 1              | -                      |
| Articulated Trucks % | 0%                     | 2%    | 0%    | 0%    |      | 1.6%           | 0%                          | 0%    | 0%    | 0%    |      | 0%             | 5.3%                   | 0.7%  | 0%    | 0%    |      | 1.1%           | 0%                          | 0%    | 2.6%  | 0%    |      | 0.3%           | -                      |
| Pedestrians          | -                      | -     | -     | -     | 0    | -              | -                           | -     | -     | -     | 0    | -              | -                      | -     | -     | -     | 0    | -              | -                           | -     | -     | -     | 1    | -              | -                      |
| Pedestrians%         | -                      | -     | -     | -     | 0%   | -              | -                           | -     | -     | -     | 0%   | -              | -                      | -     | -     | -     | 0%   | -              | -                           | -     | -     | -     | 100% | -              | -                      |
| Bicycles on Road     | 0                      | 0     | 0     | 0     | 0    | -              | 0                           | 0     | 0     | 0     | 0    | -              | 0                      | 0     | 0     | 0     | 0    | -              | 0                           | 0     | 0     | 0     | 0    | -              | -                      |
| Bicycles on Road%    | -                      | -     | -     | -     | 0%   | -              | -                           | -     | -     | -     | 0%   | -              | -                      | -     | -     | -     | 0%   | -              | -                           | -     | -     | -     | 0%   | -              | -                      |



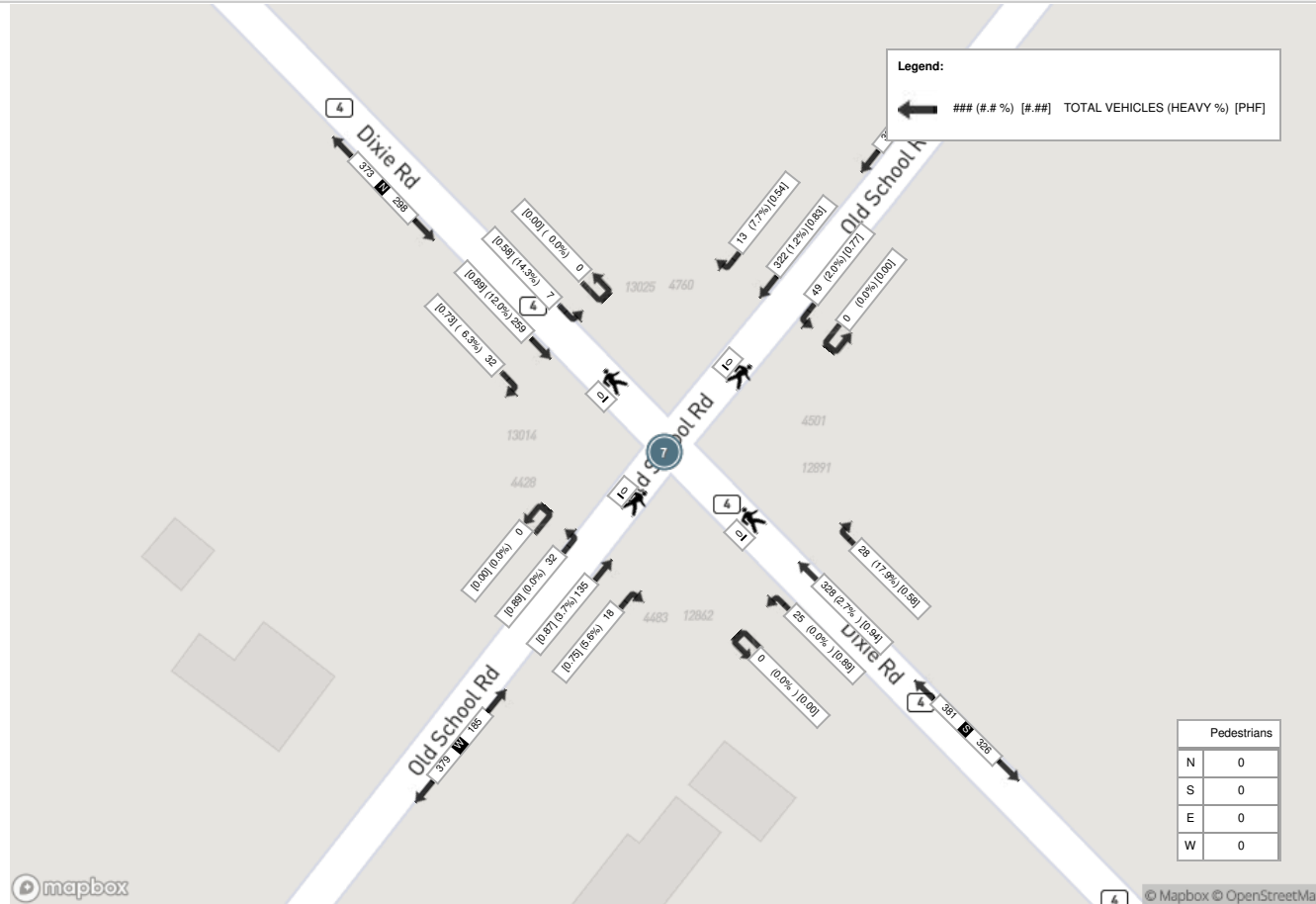
Peak Hour: 04:15 PM - 05:15 PM Weather: Few Clouds (7.51 °C)

| Start Time           | N Approach<br>DIXIE RD |       |       |       |      |                | E Approach<br>OLD SCHOOL RD |       |       |       |      |                | S Approach<br>DIXIE RD |       |      |       |      |                | W Approach<br>OLD SCHOOL RD |       |       |       |      |                | Int. Total<br>(15 min) |
|----------------------|------------------------|-------|-------|-------|------|----------------|-----------------------------|-------|-------|-------|------|----------------|------------------------|-------|------|-------|------|----------------|-----------------------------|-------|-------|-------|------|----------------|------------------------|
|                      | Right                  | Thru  | Left  | UTurn | Peds | Approach Total | Right                       | Thru  | Left  | UTurn | Peds | Approach Total | Right                  | Thru  | Left | UTurn | Peds | Approach Total | Right                       | Thru  | Left  | UTurn | Peds | Approach Total |                        |
| 16:15:00             | 6                      | 63    | 2     | 0     | 0    | 71             | 6                           | 97    | 16    | 0     | 0    | 119            | 8                      | 85    | 7    | 0     | 0    | 100            | 4                           | 27    | 8     | 0     | 0    | 39             | 329                    |
| 16:30:00             | 7                      | 54    | 3     | 0     | 0    | 64             | 0                           | 65    | 11    | 0     | 0    | 76             | 12                     | 87    | 7    | 0     | 0    | 106            | 6                           | 37    | 9     | 0     | 0    | 52             | 298                    |
| 16:45:00             | 8                      | 69    | 1     | 0     | 0    | 78             | 1                           | 78    | 12    | 0     | 0    | 91             | 3                      | 80    | 6    | 0     | 0    | 89             | 5                           | 39    | 9     | 0     | 0    | 53             | 311                    |
| 17:00:00             | 11                     | 73    | 1     | 0     | 0    | 85             | 6                           | 82    | 10    | 0     | 0    | 98             | 5                      | 76    | 5    | 0     | 0    | 86             | 3                           | 32    | 6     | 0     | 0    | 41             | 310                    |
| Grand Total          | 32                     | 259   | 7     | 0     | 0    | 298            | 13                          | 322   | 49    | 0     | 0    | 384            | 28                     | 328   | 25   | 0     | 0    | 381            | 18                          | 135   | 32    | 0     | 0    | 185            | 1248                   |
| Approach%            | 10.7%                  | 86.9% | 2.3%  | 0%    |      | -              | 3.4%                        | 83.9% | 12.8% | 0%    |      | -              | 7.3%                   | 86.1% | 6.6% | 0%    |      | -              | 9.7%                        | 73%   | 17.3% | 0%    |      | -              | -                      |
| Totals %             | 2.6%                   | 20.8% | 0.6%  | 0%    |      | 23.9%          | 1%                          | 25.8% | 3.9%  | 0%    |      | 30.8%          | 2.2%                   | 26.3% | 2%   | 0%    |      | 30.5%          | 1.4%                        | 10.8% | 2.6%  | 0%    |      | 14.8%          | -                      |
| PHF                  | 0.73                   | 0.89  | 0.58  | 0     |      | 0.88           | 0.54                        | 0.83  | 0.77  | 0     |      | 0.81           | 0.58                   | 0.94  | 0.89 | 0     |      | 0.9            | 0.75                        | 0.87  | 0.89  | 0     |      | 0.87           | -                      |
| Heavy                | 2                      | 31    | 1     | 0     |      | 34             | 1                           | 4     | 1     | 0     |      | 6              | 5                      | 9     | 0    | 0     |      | 14             | 1                           | 5     | 0     | 0     |      | 6              | -                      |
| Heavy %              | 6.3%                   | 12%   | 14.3% | 0%    |      | 11.4%          | 7.7%                        | 1.2%  | 2%    | 0%    |      | 1.6%           | 17.9%                  | 2.7%  | 0%   | 0%    |      | 3.7%           | 5.6%                        | 3.7%  | 0%    | 0%    |      | 3.2%           | -                      |
| Lights               | 30                     | 228   | 6     | 0     |      | 264            | 12                          | 318   | 48    | 0     |      | 378            | 23                     | 319   | 25   | 0     |      | 367            | 17                          | 130   | 32    | 0     |      | 179            | -                      |
| Lights %             | 93.8%                  | 88%   | 85.7% | 0%    |      | 88.6%          | 92.3%                       | 98.8% | 98%   | 0%    |      | 98.4%          | 82.1%                  | 97.3% | 100% | 0%    |      | 96.3%          | 94.4%                       | 96.3% | 100%  | 0%    |      | 96.8%          | -                      |
| Single-Unit Trucks   | 1                      | 20    | 0     | 0     |      | 21             | 1                           | 3     | 0     | 0     |      | 4              | 2                      | 5     | 0    | 0     |      | 7              | 1                           | 1     | 0     | 0     |      | 2              | -                      |
| Single-Unit Trucks % | 3.1%                   | 7.7%  | 0%    | 0%    |      | 7%             | 7.7%                        | 0.9%  | 0%    | 0%    |      | 1%             | 7.1%                   | 1.5%  | 0%   | 0%    |      | 1.8%           | 5.6%                        | 0.7%  | 0%    | 0%    |      | 1.1%           | -                      |
| Buses                | 1                      | 2     | 1     | 0     |      | 4              | 0                           | 1     | 1     | 0     |      | 2              | 1                      | 0     | 0    | 0     |      | 1              | 0                           | 4     | 0     | 0     |      | 4              | -                      |
| Buses %              | 3.1%                   | 0.8%  | 14.3% | 0%    |      | 1.3%           | 0%                          | 0.3%  | 2%    | 0%    |      | 0.5%           | 3.6%                   | 0%    | 0%   | 0%    |      | 0.3%           | 0%                          | 3%    | 0%    | 0%    |      | 2.2%           | -                      |
| Articulated Trucks   | 0                      | 9     | 0     | 0     |      | 9              | 0                           | 0     | 0     | 0     |      | 0              | 2                      | 4     | 0    | 0     |      | 6              | 0                           | 0     | 0     | 0     |      | 0              | -                      |
| Articulated Trucks % | 0%                     | 3.5%  | 0%    | 0%    |      | 3%             | 0%                          | 0%    | 0%    | 0%    |      | 0%             | 7.1%                   | 1.2%  | 0%   | 0%    |      | 1.6%           | 0%                          | 0%    | 0%    | 0%    |      | 0%             | -                      |
| Pedestrians          | -                      | -     | -     | -     | 0    | -              | -                           | -     | -     | -     | 0    | -              | -                      | -     | -    | -     | 0    | -              | -                           | -     | -     | -     | 0    | -              | -                      |
| Pedestrians%         | -                      | -     | -     | -     | 0%   | -              | -                           | -     | -     | -     | 0%   | -              | -                      | -     | -    | -     | 0%   | -              | -                           | -     | -     | -     | 0%   | -              | -                      |
| Bicycles on Road     | 0                      | 0     | 0     | 0     | 0    | -              | 0                           | 0     | 0     | 0     | 0    | -              | 0                      | 0     | 0    | 0     | 0    | -              | 0                           | 0     | 0     | 0     | 0    | -              | -                      |
| Bicycles on Road%    | -                      | -     | -     | -     | 0%   | -              | -                           | -     | -     | -     | 0%   | -              | -                      | -     | -    | -     | 0%   | -              | -                           | -     | -     | -     | 0%   | -              | -                      |

Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (4.48 °C)



Peak Hour: 04:15 PM - 05:15 PM Weather: Few Clouds (7.51 °C)







Turning Movement Count (4 . DIXIE RD & PARKING LOT NORTH ACCESS / CONSTRUCTION SITE)

| Start Time  | N Approach<br>DIXIE RD |             |             |              |            |                | E Approach<br>CONSTRUCTION ACCESS |             |             |              |            |                | S Approach<br>DIXIE RD |             |             |              |            |                | W Approach<br>PARKING LOT NORTH ACCESS |             |             |              |            |                | Int. Total<br>(15 min) | Int. Total<br>(1 hr) |  |
|-------------|------------------------|-------------|-------------|--------------|------------|----------------|-----------------------------------|-------------|-------------|--------------|------------|----------------|------------------------|-------------|-------------|--------------|------------|----------------|----------------------------------------|-------------|-------------|--------------|------------|----------------|------------------------|----------------------|--|
|             | Right<br>N:W           | Thru<br>N:S | Left<br>N:E | UTurn<br>N:N | Peds<br>N: | Approach Total | Right<br>E:N                      | Thru<br>E:W | Left<br>E:S | UTurn<br>E:E | Peds<br>E: | Approach Total | Right<br>S:E           | Thru<br>S:N | Left<br>S:W | UTurn<br>S:S | Peds<br>S: | Approach Total | Right<br>W:S                           | Thru<br>W:E | Left<br>W:N | UTurn<br>W:W | Peds<br>W: | Approach Total |                        |                      |  |
| 07:00:00    | 1                      | 108         | 0           | 0            | 0          | 109            | 0                                 | 0           | 0           | 0            | 0          | 0              | 0                      | 65          | 2           | 0            | 0          | 67             | 0                                      | 0           | 0           | 0            | 3          | 0              | 176                    |                      |  |
| 07:15:00    | 1                      | 92          | 0           | 0            | 0          | 93             | 0                                 | 0           | 2           | 0            | 0          | 2              | 0                      | 50          | 5           | 0            | 0          | 55             | 0                                      | 0           | 0           | 0            | 0          | 0              | 150                    |                      |  |
| 07:30:00    | 2                      | 95          | 0           | 0            | 0          | 97             | 0                                 | 0           | 14          | 0            | 0          | 14             | 0                      | 77          | 4           | 0            | 0          | 81             | 0                                      | 0           | 0           | 0            | 0          | 0              | 192                    |                      |  |
| 07:45:00    | 1                      | 130         | 0           | 0            | 0          | 131            | 0                                 | 0           | 9           | 0            | 0          | 9              | 0                      | 56          | 5           | 0            | 0          | 61             | 0                                      | 0           | 1           | 0            | 0          | 1              | 202                    | 720                  |  |
| 08:00:00    | 4                      | 100         | 0           | 0            | 0          | 104            | 0                                 | 0           | 19          | 0            | 0          | 19             | 0                      | 45          | 7           | 1            | 0          | 53             | 0                                      | 0           | 1           | 0            | 0          | 1              | 177                    | 721                  |  |
| 08:15:00    | 4                      | 110         | 0           | 0            | 0          | 114            | 0                                 | 0           | 29          | 0            | 0          | 29             | 0                      | 48          | 19          | 0            | 0          | 67             | 3                                      | 0           | 0           | 0            | 0          | 3              | 213                    | 784                  |  |
| 08:30:00    | 6                      | 84          | 0           | 0            | 0          | 90             | 0                                 | 0           | 29          | 0            | 1          | 29             | 0                      | 50          | 29          | 0            | 0          | 79             | 2                                      | 0           | 0           | 0            | 0          | 2              | 200                    | 792                  |  |
| 08:45:00    | 6                      | 79          | 0           | 0            | 0          | 85             | 0                                 | 0           | 25          | 0            | 1          | 25             | 1                      | 55          | 29          | 1            | 0          | 86             | 2                                      | 0           | 0           | 0            | 5          | 2              | 198                    | 788                  |  |
| ***BREAK*** |                        |             |             |              |            |                |                                   |             |             |              |            |                |                        |             |             |              |            |                |                                        |             |             |              |            |                |                        |                      |  |
| 16:00:00    | 2                      | 99          | 0           | 0            | 0          | 101            | 1                                 | 0           | 15          | 0            | 0          | 16             | 2                      | 115         | 1           | 0            | 0          | 118            | 0                                      | 0           | 0           | 0            | 0          | 0              | 235                    |                      |  |
| 16:15:00    | 0                      | 88          | 0           | 0            | 0          | 88             | 2                                 | 0           | 6           | 0            | 0          | 8              | 0                      | 101         | 1           | 0            | 0          | 102            | 0                                      | 0           | 1           | 0            | 0          | 1              | 199                    |                      |  |
| 16:30:00    | 3                      | 75          | 0           | 0            | 0          | 78             | 0                                 | 0           | 4           | 0            | 0          | 4              | 0                      | 113         | 6           | 0            | 0          | 119            | 1                                      | 0           | 1           | 0            | 0          | 2              | 203                    |                      |  |
| 16:45:00    | 3                      | 88          | 0           | 0            | 0          | 91             | 0                                 | 0           | 2           | 0            | 0          | 2              | 0                      | 101         | 7           | 0            | 0          | 108            | 0                                      | 0           | 1           | 0            | 2          | 1              | 202                    | 839                  |  |
| 17:00:00    | 1                      | 94          | 0           | 0            | 0          | 95             | 1                                 | 0           | 0           | 0            | 0          | 1              | 1                      | 106         | 9           | 0            | 0          | 116            | 0                                      | 0           | 1           | 0            | 0          | 1              | 213                    | 817                  |  |
| 17:15:00    | 2                      | 78          | 0           | 0            | 0          | 80             | 0                                 | 0           | 0           | 0            | 0          | 0              | 0                      | 106         | 1           | 0            | 0          | 107            | 1                                      | 0           | 2           | 0            | 6          | 3              | 190                    | 808                  |  |
| 17:30:00    | 8                      | 101         | 0           | 0            | 0          | 109            | 0                                 | 0           | 0           | 0            | 0          | 0              | 0                      | 97          | 10          | 0            | 0          | 107            | 0                                      | 0           | 0           | 0            | 3          | 0              | 216                    | 821                  |  |
| 17:45:00    | 7                      | 125         | 0           | 0            | 0          | 132            | 0                                 | 0           | 0           | 0            | 3          | 0              | 0                      | 78          | 13          | 0            | 0          | 91             | 1                                      | 0           | 1           | 0            | 1          | 2              | 225                    | 844                  |  |
| Grand Total | 51                     | 1546        | 0           | 0            | 0          | 1597           | 4                                 | 0           | 154         | 0            | 5          | 158            | 4                      | 1263        | 148         | 2            | 0          | 1417           | 10                                     | 0           | 9           | 0            | 20         | 19             | 3191                   | -                    |  |
| Approach%   | 3.2%                   | 96.8%       | 0%          | 0%           |            | -              | 2.5%                              | 0%          | 97.5%       | 0%           |            | -              | 0.3%                   | 89.1%       | 10.4%       | 0.1%         |            | -              | 52.6%                                  | 0%          | 47.4%       | 0%           |            | -              | -                      | -                    |  |
| Totals %    | 1.6%                   | 48.4%       | 0%          | 0%           |            | 50%            | 0.1%                              | 0%          | 4.8%        | 0%           |            | 5%             | 0.1%                   | 39.6%       | 4.6%        | 0.1%         |            | 44.4%          | 0.3%                                   | 0%          | 0.3%        | 0%           |            | 0.6%           | -                      | -                    |  |
| Heavy       | 0                      | 166         | 0           | 0            |            | -              | 3                                 | 0           | 150         | 0            |            | -              | 1                      | 144         | 7           | 2            |            | -              | 3                                      | 0           | 0           | 0            |            | -              | -                      | -                    |  |
| Heavy %     | 0%                     | 10.7%       | 0%          | 0%           |            | -              | 75%                               | 0%          | 97.4%       | 0%           |            | -              | 25%                    | 11.4%       | 4.7%        | 100%         |            | -              | 30%                                    | 0%          | 0%          | 0%           |            | -              | -                      | -                    |  |
| Bicycles    | -                      | -           | -           | -            |            | -              | -                                 | -           | -           | -            |            | -              | -                      | -           | -           | -            |            | -              | -                                      | -           | -           | -            |            | -              | -                      | -                    |  |
| Bicycle %   | -                      | -           | -           | -            |            | -              | -                                 | -           | -           | -            |            | -              | -                      | -           | -           | -            |            | -              | -                                      | -           | -           | -            |            | -              | -                      | -                    |  |



Peak Hour: 07:45 AM - 08:45 AM Weather: Broken Clouds (4.48 °C)

| Start Time           | N Approach<br>DIXIE RD |       |      |       |      |                | E Approach<br>CONSTRUCTION ACCESS |      |       |       |      |                | S Approach<br>DIXIE RD |       |       |       |      |                | W Approach<br>PARKING LOT NORTH ACCESS |      |       |       |      |                | Int. Total<br>(15 min) |
|----------------------|------------------------|-------|------|-------|------|----------------|-----------------------------------|------|-------|-------|------|----------------|------------------------|-------|-------|-------|------|----------------|----------------------------------------|------|-------|-------|------|----------------|------------------------|
|                      | Right                  | Thru  | Left | UTurn | Peds | Approach Total | Right                             | Thru | Left  | UTurn | Peds | Approach Total | Right                  | Thru  | Left  | UTurn | Peds | Approach Total | Right                                  | Thru | Left  | UTurn | Peds | Approach Total |                        |
| 07:45:00             | 1                      | 130   | 0    | 0     | 0    | 131            | 0                                 | 0    | 9     | 0     | 0    | 9              | 0                      | 56    | 5     | 0     | 0    | 61             | 0                                      | 0    | 1     | 0     | 0    | 1              | 202                    |
| 08:00:00             | 4                      | 100   | 0    | 0     | 0    | 104            | 0                                 | 0    | 19    | 0     | 0    | 19             | 0                      | 45    | 7     | 1     | 0    | 53             | 0                                      | 0    | 1     | 0     | 0    | 1              | 177                    |
| 08:15:00             | 4                      | 110   | 0    | 0     | 0    | 114            | 0                                 | 0    | 29    | 0     | 0    | 29             | 0                      | 48    | 19    | 0     | 0    | 67             | 3                                      | 0    | 0     | 0     | 0    | 3              | 213                    |
| 08:30:00             | 6                      | 84    | 0    | 0     | 0    | 90             | 0                                 | 0    | 29    | 0     | 1    | 29             | 0                      | 50    | 29    | 0     | 0    | 79             | 2                                      | 0    | 0     | 0     | 0    | 2              | 200                    |
| Grand Total          | 15                     | 424   | 0    | 0     | 0    | 439            | 0                                 | 0    | 86    | 0     | 1    | 86             | 0                      | 199   | 60    | 1     | 0    | 260            | 5                                      | 0    | 2     | 0     | 0    | 7              | 792                    |
| Approach%            | 3.4%                   | 96.6% | 0%   | 0%    |      | -              | 0%                                | 0%   | 100%  | 0%    |      | -              | 0%                     | 76.5% | 23.1% | 0.4%  |      | -              | 71.4%                                  | 0%   | 28.6% | 0%    |      | -              | -                      |
| Totals %             | 1.9%                   | 53.5% | 0%   | 0%    |      | 55.4%          | 0%                                | 0%   | 10.9% | 0%    |      | 10.9%          | 0%                     | 25.1% | 7.6%  | 0.1%  |      | 32.8%          | 0.6%                                   | 0%   | 0.3%  | 0%    |      | 0.9%           | -                      |
| PHF                  | 0.63                   | 0.82  | 0    | 0     |      | 0.84           | 0                                 | 0    | 0.74  | 0     |      | 0.74           | 0                      | 0.89  | 0.52  | 0.25  |      | 0.82           | 0.42                                   | 0    | 0.5   | 0     |      | 0.58           | -                      |
| Heavy                | 0                      | 36    | 0    | 0     |      | 36             | 0                                 | 0    | 85    | 0     |      | 85             | 0                      | 21    | 3     | 1     |      | 25             | 3                                      | 0    | 0     | 0     |      | 3              | -                      |
| Heavy %              | 0%                     | 8.5%  | 0%   | 0%    |      | 8.2%           | 0%                                | 0%   | 98.8% | 0%    |      | 98.8%          | 0%                     | 10.6% | 5%    | 100%  |      | 9.6%           | 60%                                    | 0%   | 0%    | 0%    |      | 42.9%          | -                      |
| Lights               | 15                     | 388   | 0    | 0     |      | 403            | 0                                 | 0    | 1     | 0     |      | 1              | 0                      | 178   | 57    | 0     |      | 235            | 2                                      | 0    | 2     | 0     |      | 4              | -                      |
| Lights %             | 100%                   | 91.5% | 0%   | 0%    |      | 91.8%          | 0%                                | 0%   | 1.2%  | 0%    |      | 1.2%           | 0%                     | 89.4% | 95%   | 0%    |      | 90.4%          | 40%                                    | 0%   | 100%  | 0%    |      | 57.1%          | -                      |
| Single-Unit Trucks   | 0                      | 15    | 0    | 0     |      | 15             | 0                                 | 0    | 85    | 0     |      | 85             | 0                      | 11    | 3     | 1     |      | 15             | 3                                      | 0    | 0     | 0     |      | 3              | -                      |
| Single-Unit Trucks % | 0%                     | 3.5%  | 0%   | 0%    |      | 3.4%           | 0%                                | 0%   | 98.8% | 0%    |      | 98.8%          | 0%                     | 5.5%  | 5%    | 100%  |      | 5.8%           | 60%                                    | 0%   | 0%    | 0%    |      | 42.9%          | -                      |
| Buses                | 0                      | 4     | 0    | 0     |      | 4              | 0                                 | 0    | 0     | 0     |      | 0              | 0                      | 3     | 0     | 0     |      | 3              | 0                                      | 0    | 0     | 0     |      | 0              | -                      |
| Buses %              | 0%                     | 0.9%  | 0%   | 0%    |      | 0.9%           | 0%                                | 0%   | 0%    | 0%    |      | 0%             | 0%                     | 1.5%  | 0%    | 0%    |      | 1.2%           | 0%                                     | 0%   | 0%    | 0%    |      | 0%             | -                      |
| Articulated Trucks   | 0                      | 17    | 0    | 0     |      | 17             | 0                                 | 0    | 0     | 0     |      | 0              | 0                      | 7     | 0     | 0     |      | 7              | 0                                      | 0    | 0     | 0     |      | 0              | -                      |
| Articulated Trucks % | 0%                     | 4%    | 0%   | 0%    |      | 3.9%           | 0%                                | 0%   | 0%    | 0%    |      | 0%             | 0%                     | 3.5%  | 0%    | 0%    |      | 2.7%           | 0%                                     | 0%   | 0%    | 0%    |      | 0%             | -                      |
| Pedestrians          | -                      | -     | -    | -     | 0    | -              | -                                 | -    | -     | -     | 1    | -              | -                      | -     | -     | -     | 0    | -              | -                                      | -    | -     | -     | 0    | -              | -                      |
| Pedestrians%         | -                      | -     | -    | -     | 0%   | -              | -                                 | -    | -     | -     | 100% | -              | -                      | -     | -     | -     | 0%   | -              | -                                      | -    | -     | -     | 0%   | -              | -                      |



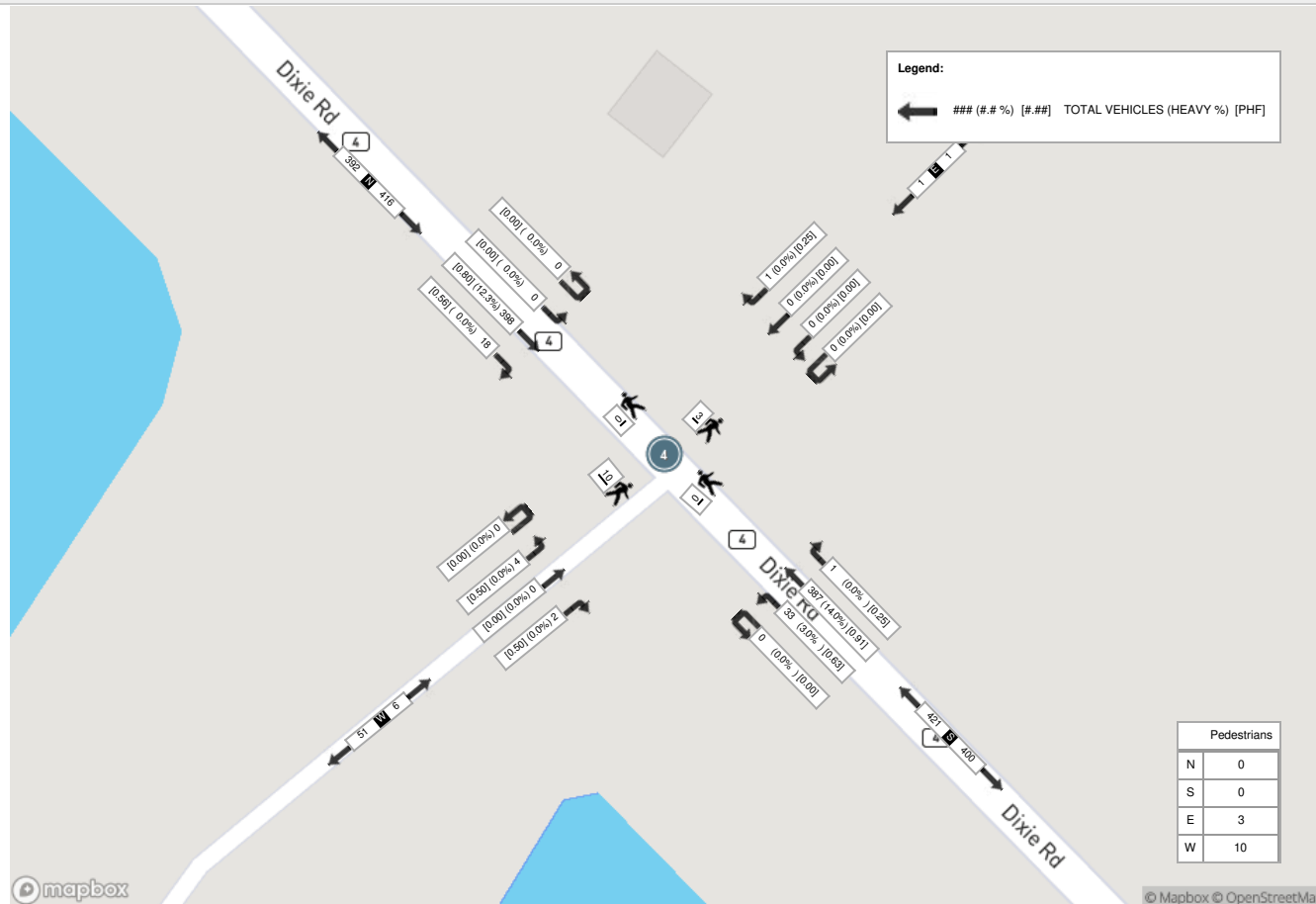
Peak Hour: 05:00 PM - 06:00 PM Weather: Few Clouds (7.51 °C)

| Start Time           | N Approach<br>DIXIE RD |       |      |       |      |                | E Approach<br>CONSTRUCTION ACCESS |      |      |       |       |                | S Approach<br>DIXIE RD |       |      |       |      |                | W Approach<br>PARKING LOT NORTH ACCESS |      |       |       |       |                | Int. Total<br>(15 min) |
|----------------------|------------------------|-------|------|-------|------|----------------|-----------------------------------|------|------|-------|-------|----------------|------------------------|-------|------|-------|------|----------------|----------------------------------------|------|-------|-------|-------|----------------|------------------------|
|                      | Right                  | Thru  | Left | UTurn | Peds | Approach Total | Right                             | Thru | Left | UTurn | Peds  | Approach Total | Right                  | Thru  | Left | UTurn | Peds | Approach Total | Right                                  | Thru | Left  | UTurn | Peds  | Approach Total |                        |
| 17:00:00             | 1                      | 94    | 0    | 0     | 0    | 95             | 1                                 | 0    | 0    | 0     | 0     | 1              | 1                      | 106   | 9    | 0     | 0    | 116            | 0                                      | 0    | 1     | 0     | 0     | 1              | 213                    |
| 17:15:00             | 2                      | 78    | 0    | 0     | 0    | 80             | 0                                 | 0    | 0    | 0     | 0     | 0              | 0                      | 106   | 1    | 0     | 0    | 107            | 1                                      | 0    | 2     | 0     | 6     | 3              | 190                    |
| 17:30:00             | 8                      | 101   | 0    | 0     | 0    | 109            | 0                                 | 0    | 0    | 0     | 0     | 0              | 0                      | 97    | 10   | 0     | 0    | 107            | 0                                      | 0    | 0     | 0     | 3     | 0              | 216                    |
| 17:45:00             | 7                      | 125   | 0    | 0     | 0    | 132            | 0                                 | 0    | 0    | 0     | 3     | 0              | 0                      | 78    | 13   | 0     | 0    | 91             | 1                                      | 0    | 1     | 0     | 1     | 2              | 225                    |
| Grand Total          | 18                     | 398   | 0    | 0     | 0    | 416            | 1                                 | 0    | 0    | 0     | 3     | 1              | 1                      | 387   | 33   | 0     | 0    | 421            | 2                                      | 0    | 4     | 0     | 10    | 6              | 844                    |
| Approach%            | 4.3%                   | 95.7% | 0%   | 0%    |      | -              | 100%                              | 0%   | 0%   | 0%    |       | -              | 0.2%                   | 91.9% | 7.8% | 0%    |      | -              | 33.3%                                  | 0%   | 66.7% | 0%    |       | -              | -                      |
| Totals %             | 2.1%                   | 47.2% | 0%   | 0%    |      | 49.3%          | 0.1%                              | 0%   | 0%   | 0%    |       | 0.1%           | 0.1%                   | 45.9% | 3.9% | 0%    |      | 49.9%          | 0.2%                                   | 0%   | 0.5%  | 0%    |       | 0.7%           | -                      |
| PHF                  | 0.56                   | 0.8   | 0    | 0     |      | 0.79           | 0.25                              | 0    | 0    | 0     |       | 0.25           | 0.25                   | 0.91  | 0.63 | 0     |      | 0.91           | 0.5                                    | 0    | 0.5   | 0     |       | 0.5            | -                      |
| Heavy                | 0                      | 49    | 0    | 0     |      | 49             | 0                                 | 0    | 0    | 0     |       | 0              | 0                      | 54    | 1    | 0     |      | 55             | 0                                      | 0    | 0     | 0     |       | 0              | -                      |
| Heavy %              | 0%                     | 12.3% | 0%   | 0%    |      | 11.8%          | 0%                                | 0%   | 0%   | 0%    |       | 0%             | 0%                     | 14%   | 3%   | 0%    |      | 13.1%          | 0%                                     | 0%   | 0%    | 0%    |       | 0%             | -                      |
| Lights               | 18                     | 349   | 0    | 0     |      | 367            | 1                                 | 0    | 0    | 0     |       | 1              | 1                      | 333   | 32   | 0     |      | 366            | 2                                      | 0    | 4     | 0     |       | 6              | -                      |
| Lights %             | 100%                   | 87.7% | 0%   | 0%    |      | 88.2%          | 100%                              | 0%   | 0%   | 0%    |       | 100%           | 100%                   | 86%   | 97%  | 0%    |      | 86.9%          | 100%                                   | 0%   | 100%  | 0%    |       | 100%           | -                      |
| Single-Unit Trucks   | 0                      | 23    | 0    | 0     |      | 23             | 0                                 | 0    | 0    | 0     |       | 0              | 0                      | 34    | 0    | 0     |      | 34             | 0                                      | 0    | 0     | 0     |       | 0              | -                      |
| Single-Unit Trucks % | 0%                     | 5.8%  | 0%   | 0%    |      | 5.5%           | 0%                                | 0%   | 0%   | 0%    |       | 0%             | 0%                     | 8.8%  | 0%   | 0%    |      | 8.1%           | 0%                                     | 0%   | 0%    | 0%    |       | 0%             | -                      |
| Buses                | 0                      | 0     | 0    | 0     |      | 0              | 0                                 | 0    | 0    | 0     |       | 0              | 0                      | 0     | 1    | 0     |      | 1              | 0                                      | 0    | 0     | 0     |       | 0              | -                      |
| Buses %              | 0%                     | 0%    | 0%   | 0%    |      | 0%             | 0%                                | 0%   | 0%   | 0%    |       | 0%             | 0%                     | 0%    | 3%   | 0%    |      | 0.2%           | 0%                                     | 0%   | 0%    | 0%    |       | 0%             | -                      |
| Articulated Trucks   | 0                      | 26    | 0    | 0     |      | 26             | 0                                 | 0    | 0    | 0     |       | 0              | 0                      | 20    | 0    | 0     |      | 20             | 0                                      | 0    | 0     | 0     |       | 0              | -                      |
| Articulated Trucks % | 0%                     | 6.5%  | 0%   | 0%    |      | 6.3%           | 0%                                | 0%   | 0%   | 0%    |       | 0%             | 0%                     | 5.2%  | 0%   | 0%    |      | 4.8%           | 0%                                     | 0%   | 0%    | 0%    |       | 0%             | -                      |
| Pedestrians          | -                      | -     | -    | -     | 0    | -              | -                                 | -    | -    | -     | 3     | -              | -                      | -     | -    | -     | 0    | -              | -                                      | -    | -     | -     | 10    | -              | -                      |
| Pedestrians%         | -                      | -     | -    | -     | 0%   | -              | -                                 | -    | -    | -     | 23.1% | -              | -                      | -     | -    | -     | 0%   | -              | -                                      | -    | -     | -     | 76.9% | -              | -                      |

Peak Hour: 07:45 AM - 08:45 AM Weather: Broken Clouds (4.48 °C)



Peak Hour: 05:00 PM - 06:00 PM    Weather: Few Clouds (7.51 °C)





### Turning Movement Count (3 . DIXIE RD & PARKING LOT SOUTH ACCESS)

| Start Time  | N Approach<br>DIXIE RD |             |              |            |                | S Approach<br>DIXIE RD |             |              |            |                | W Approach<br>UPS PARKING LOT SOUTH ACCESS |             |              |            |                | Int. Total<br>(15 min) | Int. Total<br>(1 hr) |
|-------------|------------------------|-------------|--------------|------------|----------------|------------------------|-------------|--------------|------------|----------------|--------------------------------------------|-------------|--------------|------------|----------------|------------------------|----------------------|
|             | Right<br>N:W           | Thru<br>N:S | UTurn<br>N:N | Peds<br>N: | Approach Total | Thru<br>S:N            | Left<br>S:W | UTurn<br>S:S | Peds<br>S: | Approach Total | Right<br>W:S                               | Left<br>W:N | UTurn<br>W:W | Peds<br>W: | Approach Total |                        |                      |
| 07:00:00    | 0                      | 107         | 0            | 0          | 107            | 70                     | 0           | 0            | 0          | 70             | 1                                          | 0           | 0            | 1          | 1              | 178                    |                      |
| 07:15:00    | 0                      | 91          | 0            | 0          | 91             | 55                     | 0           | 0            | 0          | 55             | 0                                          | 0           | 0            | 1          | 0              | 146                    |                      |
| 07:30:00    | 1                      | 107         | 0            | 0          | 108            | 81                     | 1           | 0            | 0          | 82             | 0                                          | 0           | 0            | 0          | 0              | 190                    |                      |
| 07:45:00    | 0                      | 143         | 0            | 0          | 143            | 60                     | 0           | 0            | 0          | 60             | 0                                          | 0           | 0            | 0          | 0              | 203                    | 717                  |
| 08:00:00    | 2                      | 116         | 0            | 0          | 118            | 54                     | 0           | 0            | 0          | 54             | 0                                          | 1           | 0            | 0          | 1              | 173                    | 712                  |
| 08:15:00    | 3                      | 141         | 0            | 0          | 144            | 63                     | 0           | 0            | 0          | 63             | 0                                          | 2           | 0            | 0          | 2              | 209                    | 775                  |
| 08:30:00    | 0                      | 111         | 0            | 0          | 111            | 84                     | 5           | 0            | 0          | 89             | 2                                          | 0           | 0            | 0          | 2              | 202                    | 787                  |
| 08:45:00    | 2                      | 111         | 0            | 0          | 113            | 86                     | 4           | 0            | 0          | 90             | 4                                          | 2           | 0            | 5          | 6              | 209                    | 793                  |
| ***BREAK*** |                        |             |              |            |                |                        |             |              |            |                |                                            |             |              |            |                |                        |                      |
| 16:00:00    | 2                      | 111         | 0            | 0          | 113            | 119                    | 0           | 0            | 0          | 119            | 1                                          | 0           | 0            | 0          | 1              | 233                    |                      |
| 16:15:00    | 0                      | 96          | 0            | 0          | 96             | 100                    | 0           | 0            | 0          | 100            | 1                                          | 0           | 0            | 0          | 1              | 197                    |                      |
| 16:30:00    | 0                      | 77          | 0            | 0          | 77             | 120                    | 0           | 0            | 0          | 120            | 2                                          | 0           | 0            | 0          | 2              | 199                    |                      |
| 16:45:00    | 0                      | 92          | 0            | 0          | 92             | 107                    | 0           | 0            | 0          | 107            | 1                                          | 0           | 0            | 2          | 1              | 200                    | 829                  |
| 17:00:00    | 0                      | 95          | 0            | 0          | 95             | 115                    | 0           | 0            | 0          | 115            | 3                                          | 0           | 0            | 0          | 3              | 213                    | 809                  |
| 17:15:00    | 0                      | 79          | 0            | 0          | 79             | 108                    | 0           | 0            | 0          | 108            | 3                                          | 0           | 0            | 4          | 3              | 190                    | 802                  |
| 17:30:00    | 0                      | 97          | 0            | 2          | 97             | 109                    | 0           | 0            | 0          | 109            | 4                                          | 0           | 0            | 3          | 4              | 210                    | 813                  |
| 17:45:00    | 0                      | 130         | 0            | 0          | 130            | 90                     | 0           | 0            | 2          | 90             | 5                                          | 0           | 0            | 0          | 5              | 225                    | 838                  |
| Grand Total | 10                     | 1704        | 0            | 2          | 1714           | 1421                   | 10          | 0            | 2          | 1431           | 27                                         | 5           | 0            | 16         | 32             | 3177                   | -                    |
| Approach%   | 0.6%                   | 99.4%       | 0%           |            | -              | 99.3%                  | 0.7%        | 0%           |            | -              | 84.4%                                      | 15.6%       | 0%           |            | -              | -                      | -                    |
| Totals %    | 0.3%                   | 53.6%       | 0%           |            | 54%            | 44.7%                  | 0.3%        | 0%           |            | 45%            | 0.8%                                       | 0.2%        | 0%           |            | 1%             | -                      | -                    |
| Heavy       | 6                      | 316         | 0            |            | -              | 145                    | 0           | 0            |            | -              | 2                                          | 5           | 0            |            | -              | -                      | -                    |
| Heavy %     | 60%                    | 18.5%       | 0%           |            | -              | 10.2%                  | 0%          | 0%           |            | -              | 7.4%                                       | 100%        | 0%           |            | -              | -                      | -                    |
| Bicycles    | -                      | -           | -            |            | -              | -                      | -           | -            |            | -              | -                                          | -           | -            |            | -              | -                      | -                    |
| Bicycle %   | -                      | -           | -            |            | -              | -                      | -           | -            |            | -              | -                                          | -           | -            |            | -              | -                      | -                    |



Peak Hour: 08:00 AM - 09:00 AM Weather: Broken Clouds (4.48 °C)

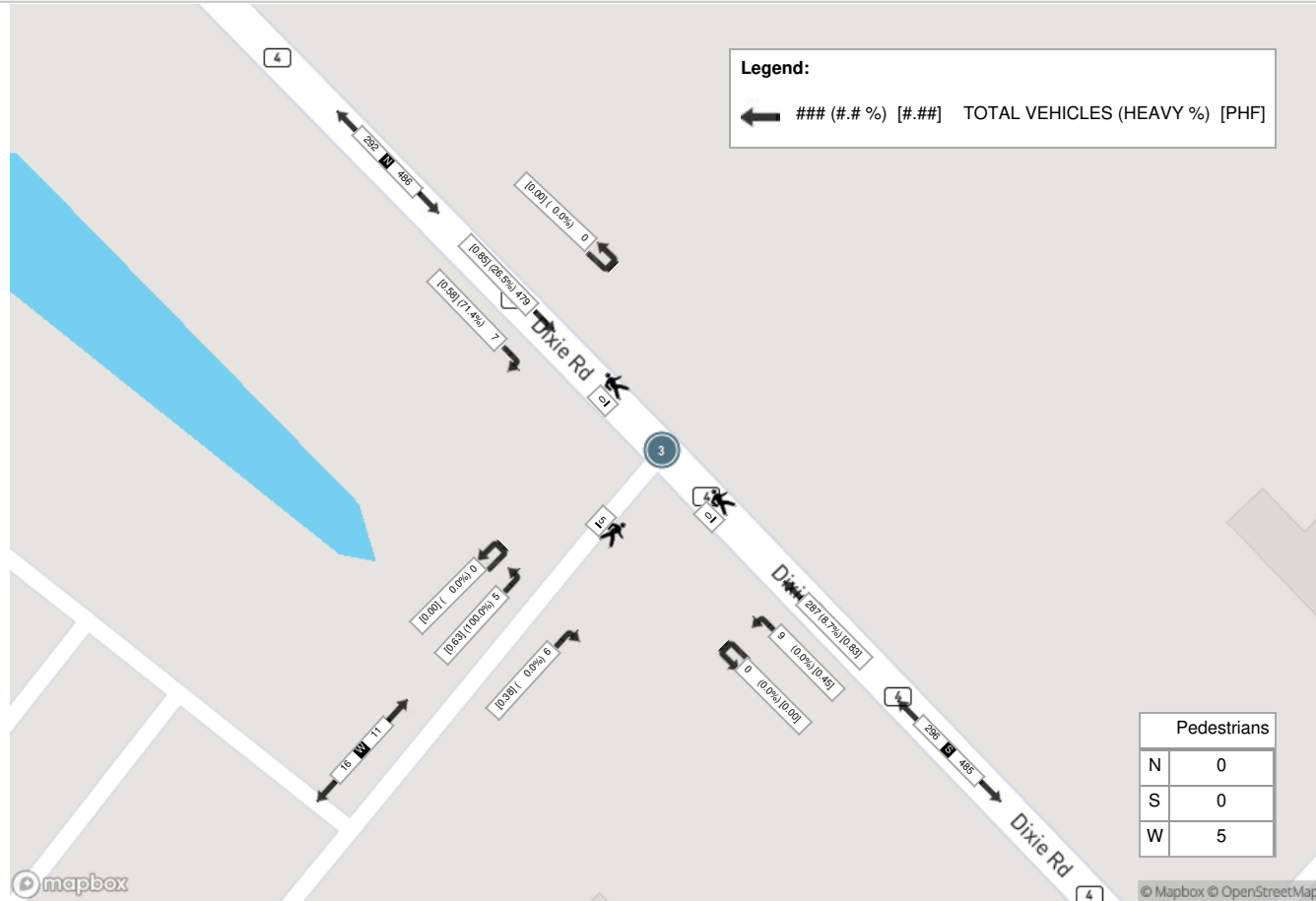
| Start Time           | N Approach<br>DIXIE RD |       |       |      |                | S Approach<br>DIXIE RD |      |       |      |                | W Approach<br>UPS PARKING LOT SOUTH ACCESS |       |       |      |                | Int. Total<br>(15 min) |
|----------------------|------------------------|-------|-------|------|----------------|------------------------|------|-------|------|----------------|--------------------------------------------|-------|-------|------|----------------|------------------------|
|                      | Right                  | Thru  | UTurn | Peds | Approach Total | Thru                   | Left | UTurn | Peds | Approach Total | Right                                      | Left  | UTurn | Peds | Approach Total |                        |
| 08:00:00             | 2                      | 116   | 0     | 0    | 118            | 54                     | 0    | 0     | 0    | 54             | 0                                          | 1     | 0     | 0    | 1              | 173                    |
| 08:15:00             | 3                      | 141   | 0     | 0    | 144            | 63                     | 0    | 0     | 0    | 63             | 0                                          | 2     | 0     | 0    | 2              | 209                    |
| 08:30:00             | 0                      | 111   | 0     | 0    | 111            | 84                     | 5    | 0     | 0    | 89             | 2                                          | 0     | 0     | 0    | 2              | 202                    |
| 08:45:00             | 2                      | 111   | 0     | 0    | 113            | 86                     | 4    | 0     | 0    | 90             | 4                                          | 2     | 0     | 5    | 6              | 209                    |
| Grand Total          | 7                      | 479   | 0     | 0    | 486            | 287                    | 9    | 0     | 0    | 296            | 6                                          | 5     | 0     | 5    | 11             | 793                    |
| Approach%            | 1.4%                   | 98.6% | 0%    |      | -              | 97%                    | 3%   | 0%    |      | -              | 54.5%                                      | 45.5% | 0%    |      | -              | -                      |
| Totals %             | 0.9%                   | 60.4% | 0%    |      | 61.3%          | 36.2%                  | 1.1% | 0%    |      | 37.3%          | 0.8%                                       | 0.6%  | 0%    |      | 1.4%           | -                      |
| PHF                  | 0.58                   | 0.85  | 0     |      | 0.84           | 0.83                   | 0.45 | 0     |      | 0.82           | 0.38                                       | 0.63  | 0     |      | 0.46           | -                      |
| Heavy                | 5                      | 127   | 0     |      | 132            | 25                     | 0    | 0     |      | 25             | 0                                          | 5     | 0     |      | 5              | -                      |
| Heavy %              | 71.4%                  | 26.5% | 0%    |      | 27.2%          | 8.7%                   | 0%   | 0%    |      | 8.4%           | 0%                                         | 100%  | 0%    |      | 45.5%          | -                      |
| Lights               | 2                      | 352   | 0     |      | 354            | 262                    | 9    | 0     |      | 271            | 6                                          | 0     | 0     |      | 6              | -                      |
| Lights %             | 28.6%                  | 73.5% | 0%    |      | 72.8%          | 91.3%                  | 100% | 0%    |      | 91.6%          | 100%                                       | 0%    | 0%    |      | 54.5%          | -                      |
| Single-Unit Trucks   | 5                      | 114   | 0     |      | 119            | 13                     | 0    | 0     |      | 13             | 0                                          | 5     | 0     |      | 5              | -                      |
| Single-Unit Trucks % | 71.4%                  | 23.8% | 0%    |      | 24.5%          | 4.5%                   | 0%   | 0%    |      | 4.4%           | 0%                                         | 100%  | 0%    |      | 45.5%          | -                      |
| Buses                | 0                      | 1     | 0     |      | 1              | 2                      | 0    | 0     |      | 2              | 0                                          | 0     | 0     |      | 0              | -                      |
| Buses %              | 0%                     | 0.2%  | 0%    |      | 0.2%           | 0.7%                   | 0%   | 0%    |      | 0.7%           | 0%                                         | 0%    | 0%    |      | 0%             | -                      |
| Articulated Trucks   | 0                      | 12    | 0     |      | 12             | 10                     | 0    | 0     |      | 10             | 0                                          | 0     | 0     |      | 0              | -                      |
| Articulated Trucks % | 0%                     | 2.5%  | 0%    |      | 2.5%           | 3.5%                   | 0%   | 0%    |      | 3.4%           | 0%                                         | 0%    | 0%    |      | 0%             | -                      |
| Pedestrians          | -                      | -     | -     | 0    | -              | -                      | -    | -     | 0    | -              | -                                          | -     | -     | 5    | -              | -                      |
| Pedestrians%         | -                      | -     | -     | 0%   | -              | -                      | -    | -     | 0%   | -              | -                                          | -     | -     | 100% | -              | -                      |



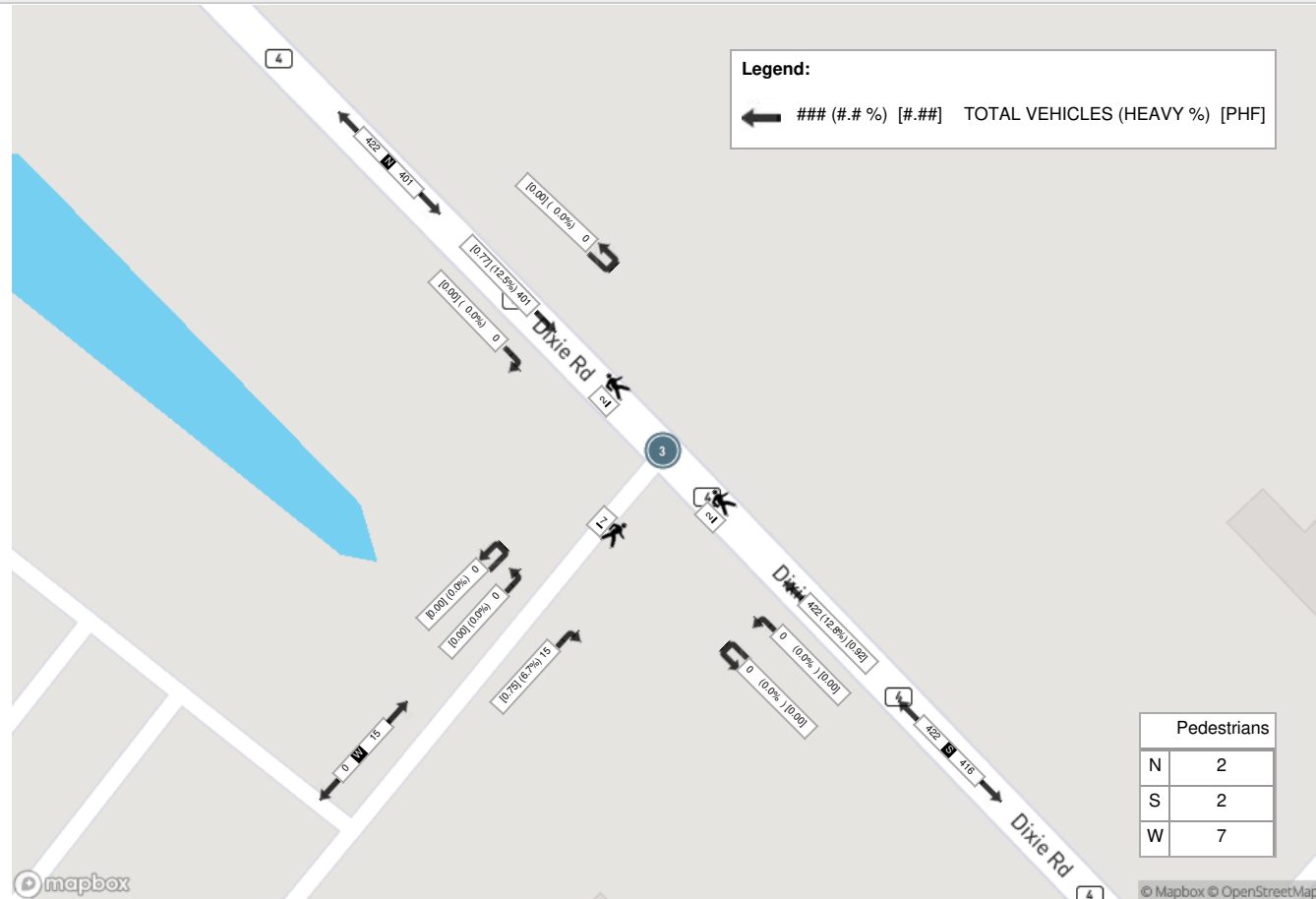
**Peak Hour: 05:00 PM - 06:00 PM Weather: Few Clouds (7.51 °C)**

| Start Time                  | N Approach<br>DIXIE RD |            |          |          |                | S Approach<br>DIXIE RD |          |          |          |                | W Approach<br>UPS PARKING LOT SOUTH ACCESS |          |          |          |                | Int. Total<br>(15 min) |
|-----------------------------|------------------------|------------|----------|----------|----------------|------------------------|----------|----------|----------|----------------|--------------------------------------------|----------|----------|----------|----------------|------------------------|
|                             | Right                  | Thru       | UTurn    | Peds     | Approach Total | Thru                   | Left     | UTurn    | Peds     | Approach Total | Right                                      | Left     | UTurn    | Peds     | Approach Total |                        |
| 17:00:00                    | 0                      | 95         | 0        | 0        | 95             | 115                    | 0        | 0        | 0        | 115            | 3                                          | 0        | 0        | 0        | 3              | 213                    |
| 17:15:00                    | 0                      | 79         | 0        | 0        | 79             | 108                    | 0        | 0        | 0        | 108            | 3                                          | 0        | 0        | 4        | 3              | 190                    |
| 17:30:00                    | 0                      | 97         | 0        | 2        | 97             | 109                    | 0        | 0        | 0        | 109            | 4                                          | 0        | 0        | 3        | 4              | 210                    |
| 17:45:00                    | 0                      | 130        | 0        | 0        | 130            | 90                     | 0        | 0        | 2        | 90             | 5                                          | 0        | 0        | 0        | 5              | 225                    |
| <b>Grand Total</b>          | <b>0</b>               | <b>401</b> | <b>0</b> | <b>2</b> | <b>401</b>     | <b>422</b>             | <b>0</b> | <b>0</b> | <b>2</b> | <b>422</b>     | <b>15</b>                                  | <b>0</b> | <b>0</b> | <b>7</b> | <b>15</b>      | <b>838</b>             |
| <b>Approach%</b>            | 0%                     | 100%       | 0%       |          | -              | 100%                   | 0%       | 0%       |          | -              | 100%                                       | 0%       | 0%       |          | -              | -                      |
| <b>Totals %</b>             | 0%                     | 47.9%      | 0%       |          | 47.9%          | 50.4%                  | 0%       | 0%       |          | 50.4%          | 1.8%                                       | 0%       | 0%       |          | 1.8%           | -                      |
| <b>PHF</b>                  | 0                      | 0.77       | 0        |          | 0.77           | 0.92                   | 0        | 0        |          | 0.92           | 0.75                                       | 0        | 0        |          | 0.75           | -                      |
| <b>Heavy</b>                | 0                      | 50         | 0        |          | 50             | 54                     | 0        | 0        |          | 54             | 1                                          | 0        | 0        |          | 1              | -                      |
| <b>Heavy %</b>              | 0%                     | 12.5%      | 0%       |          | 12.5%          | 12.8%                  | 0%       | 0%       |          | 12.8%          | 6.7%                                       | 0%       | 0%       |          | 6.7%           | -                      |
| <b>Lights</b>               | 0                      | 351        | 0        |          | 351            | 368                    | 0        | 0        |          | 368            | 14                                         | 0        | 0        |          | 14             | -                      |
| <b>Lights %</b>             | 0%                     | 87.5%      | 0%       |          | 87.5%          | 87.2%                  | 0%       | 0%       |          | 87.2%          | 93.3%                                      | 0%       | 0%       |          | 93.3%          | -                      |
| <b>Single-Unit Trucks</b>   | 0                      | 24         | 0        |          | 24             | 34                     | 0        | 0        |          | 34             | 0                                          | 0        | 0        |          | 0              | -                      |
| <b>Single-Unit Trucks %</b> | 0%                     | 6%         | 0%       |          | 6%             | 8.1%                   | 0%       | 0%       |          | 8.1%           | 0%                                         | 0%       | 0%       |          | 0%             | -                      |
| <b>Buses</b>                | 0                      | 0          | 0        |          | 0              | 1                      | 0        | 0        |          | 1              | 1                                          | 0        | 0        |          | 1              | -                      |
| <b>Buses %</b>              | 0%                     | 0%         | 0%       |          | 0%             | 0.2%                   | 0%       | 0%       |          | 0.2%           | 6.7%                                       | 0%       | 0%       |          | 6.7%           | -                      |
| <b>Articulated Trucks</b>   | 0                      | 26         | 0        |          | 26             | 19                     | 0        | 0        |          | 19             | 0                                          | 0        | 0        |          | 0              | -                      |
| <b>Articulated Trucks %</b> | 0%                     | 6.5%       | 0%       |          | 6.5%           | 4.5%                   | 0%       | 0%       |          | 4.5%           | 0%                                         | 0%       | 0%       |          | 0%             | -                      |
| <b>Pedestrians</b>          | -                      | -          | -        | 2        | -              | -                      | -        | -        | 2        | -              | -                                          | -        | -        | 7        | -              | -                      |
| <b>Pedestrians%</b>         | -                      | -          | -        | 18.2%    |                | -                      | -        | -        | 18.2%    |                | -                                          | -        | -        | 63.6%    |                | -                      |

**Peak Hour: 08:00 AM - 09:00 AM    Weather: Broken Clouds (4.48 °C)**



**Peak Hour: 05:00 PM - 06:00 PM    Weather: Few Clouds (7.51 °C)**





Turning Movement Count (143 . MAYFIELD RD & BRAMALEA ROAD) CustID: 01411004 MiolD:

| Start Time  | N Approach<br>BRAMALEA RD |             |              |              |            |                | E Approach<br>MAYFIELD RD |             |              |              |            |                | S Approach<br>BRAMALEA RD |             |              |              |            |                | W Approach<br>MAYFIELD RD |             |              |              |            |                | Int. Total<br>(15 min) | Int. Total<br>(1 hr) |  |
|-------------|---------------------------|-------------|--------------|--------------|------------|----------------|---------------------------|-------------|--------------|--------------|------------|----------------|---------------------------|-------------|--------------|--------------|------------|----------------|---------------------------|-------------|--------------|--------------|------------|----------------|------------------------|----------------------|--|
|             | Left<br>N:E               | Thru<br>N:S | Right<br>N:W | UTurn<br>N:N | Peds<br>N: | Approach Total | Left<br>E:S               | Thru<br>E:W | Right<br>E:N | UTurn<br>E:E | Peds<br>E: | Approach Total | Left<br>S:W               | Thru<br>S:N | Right<br>S:E | UTurn<br>S:S | Peds<br>S: | Approach Total | Left<br>W:N               | Thru<br>W:E | Right<br>W:S | UTurn<br>W:W | Peds<br>W: | Approach Total |                        |                      |  |
| 07:00:00    | 1                         | 7           | 5            | 0            | 0          | 13             | 5                         | 146         | 0            | 0            | 0          | 151            | 26                        | 6           | 11           | 0            | 2          | 43             | 9                         | 217         | 43           | 0            | 0          | 269            | 476                    |                      |  |
| 07:15:00    | 2                         | 15          | 6            | 0            | 0          | 23             | 11                        | 135         | 0            | 1            | 0          | 147            | 18                        | 7           | 9            | 0            | 0          | 34             | 16                        | 212         | 48           | 0            | 0          | 276            | 480                    |                      |  |
| 07:30:00    | 7                         | 18          | 17           | 0            | 0          | 42             | 12                        | 137         | 4            | 0            | 0          | 153            | 21                        | 16          | 10           | 0            | 2          | 47             | 65                        | 307         | 33           | 0            | 0          | 405            | 647                    |                      |  |
| 07:45:00    | 8                         | 44          | 58           | 0            | 0          | 110            | 17                        | 155         | 17           | 0            | 0          | 189            | 32                        | 63          | 12           | 0            | 1          | 107            | 107                       | 270         | 54           | 0            | 0          | 431            | 837                    | 2440                 |  |
| 08:00:00    | 20                        | 49          | 69           | 0            | 0          | 138            | 35                        | 172         | 8            | 2            | 0          | 217            | 30                        | 34          | 17           | 0            | 0          | 81             | 88                        | 258         | 48           | 0            | 0          | 394            | 830                    | 2794                 |  |
| 08:15:00    | 6                         | 25          | 15           | 0            | 0          | 46             | 17                        | 151         | 5            | 0            | 0          | 173            | 32                        | 20          | 12           | 0            | 0          | 64             | 29                        | 271         | 44           | 0            | 0          | 344            | 627                    | 2941                 |  |
| 08:30:00    | 3                         | 16          | 9            | 0            | 0          | 28             | 13                        | 177         | 6            | 0            | 0          | 196            | 29                        | 15          | 13           | 0            | 0          | 57             | 31                        | 236         | 56           | 0            | 0          | 323            | 604                    | 2898                 |  |
| 08:45:00    | 5                         | 10          | 12           | 0            | 0          | 27             | 5                         | 126         | 3            | 1            | 3          | 135            | 35                        | 21          | 14           | 1            | 0          | 71             | 32                        | 237         | 46           | 0            | 0          | 315            | 548                    | 2609                 |  |
| ***BREAK*** |                           |             |              |              |            |                |                           |             |              |              |            |                |                           |             |              |              |            |                |                           |             |              |              |            |                |                        |                      |  |
| 11:00:00    | 6                         | 12          | 10           | 0            | 0          | 28             | 11                        | 97          | 5            | 0            | 2          | 113            | 40                        | 18          | 6            | 0            | 0          | 64             | 16                        | 136         | 35           | 0            | 0          | 187            | 392                    |                      |  |
| 11:15:00    | 2                         | 13          | 14           | 0            | 0          | 29             | 13                        | 120         | 1            | 1            | 0          | 135            | 36                        | 13          | 10           | 0            | 2          | 59             | 16                        | 130         | 31           | 0            | 0          | 177            | 400                    |                      |  |
| 11:30:00    | 1                         | 12          | 8            | 0            | 0          | 21             | 13                        | 99          | 4            | 0            | 1          | 116            | 36                        | 22          | 8            | 0            | 0          | 66             | 13                        | 133         | 30           | 0            | 0          | 176            | 379                    |                      |  |
| 11:45:00    | 6                         | 12          | 13           | 0            | 0          | 31             | 9                         | 121         | 5            | 0            | 5          | 135            | 34                        | 17          | 10           | 0            | 0          | 61             | 12                        | 152         | 40           | 0            | 4          | 204            | 431                    | 1602                 |  |
| 12:00:00    | 3                         | 6           | 13           | 0            | 1          | 22             | 17                        | 99          | 0            | 1            | 2          | 117            | 47                        | 18          | 15           | 0            | 2          | 80             | 10                        | 153         | 30           | 0            | 0          | 193            | 412                    | 1622                 |  |
| 12:15:00    | 4                         | 14          | 14           | 0            | 0          | 32             | 16                        | 102         | 1            | 0            | 0          | 119            | 40                        | 14          | 8            | 0            | 4          | 62             | 13                        | 148         | 43           | 0            | 0          | 204            | 417                    | 1639                 |  |
| 12:30:00    | 2                         | 11          | 6            | 0            | 0          | 19             | 11                        | 129         | 0            | 0            | 0          | 140            | 30                        | 7           | 11           | 0            | 2          | 48             | 8                         | 142         | 38           | 0            | 0          | 188            | 395                    | 1655                 |  |
| 12:45:00    | 4                         | 12          | 10           | 0            | 0          | 26             | 13                        | 111         | 4            | 1            | 1          | 129            | 24                        | 17          | 9            | 0            | 0          | 50             | 11                        | 177         | 31           | 0            | 0          | 219            | 424                    | 1648                 |  |
| 13:00:00    | 1                         | 14          | 7            | 0            | 0          | 22             | 11                        | 118         | 1            | 2            | 0          | 132            | 35                        | 22          | 9            | 0            | 0          | 66             | 12                        | 147         | 42           | 0            | 0          | 201            | 421                    | 1657                 |  |
| 13:15:00    | 4                         | 13          | 14           | 0            | 0          | 31             | 20                        | 140         | 3            | 3            | 0          | 166            | 38                        | 13          | 9            | 0            | 0          | 60             | 16                        | 128         | 36           | 0            | 3          | 180            | 437                    | 1677                 |  |
| 13:30:00    | 6                         | 8           | 19           | 0            | 0          | 33             | 13                        | 129         | 0            | 0            | 0          | 142            | 35                        | 13          | 10           | 1            | 0          | 59             | 13                        | 144         | 30           | 0            | 0          | 187            | 421                    | 1703                 |  |
| 13:45:00    | 1                         | 10          | 8            | 0            | 0          | 19             | 21                        | 143         | 1            | 0            | 1          | 165            | 40                        | 5           | 12           | 0            | 0          | 57             | 11                        | 138         | 44           | 0            | 0          | 193            | 434                    | 1713                 |  |
| ***BREAK*** |                           |             |              |              |            |                |                           |             |              |              |            |                |                           |             |              |              |            |                |                           |             |              |              |            |                |                        |                      |  |
| 15:00:00    | 7                         | 17          | 38           | 0            | 0          | 62             | 19                        | 161         | 2            | 0            | 1          | 182            | 69                        | 35          | 13           | 0            | 2          | 117            | 30                        | 214         | 46           | 0            | 0          | 290            | 651                    |                      |  |
| 15:15:00    | 3                         | 15          | 26           | 0            | 0          | 44             | 29                        | 199         | 5            | 0            | 0          | 233            | 63                        | 36          | 21           | 0            | 1          | 120            | 27                        | 218         | 39           | 0            | 0          | 284            | 681                    |                      |  |
| 15:30:00    | 8                         | 12          | 34           | 0            | 0          | 54             | 21                        | 197         | 8            | 0            | 1          | 226            | 72                        | 28          | 11           | 0            | 2          | 111            | 27                        | 215         | 39           | 0            | 0          | 281            | 672                    |                      |  |
| 15:45:00    | 8                         | 11          | 26           | 0            | 0          | 45             | 16                        | 227         | 4            | 1            | 0          | 248            | 62                        | 26          | 10           | 0            | 1          | 98             | 42                        | 183         | 55           | 0            | 0          | 280            | 671                    | 2675                 |  |
| 16:00:00    | 3                         | 15          | 39           | 0            | 0          | 57             | 23                        | 216         | 9            | 0            | 2          | 248            | 72                        | 28          | 11           | 0            | 0          | 111            | 37                        | 191         | 50           | 1            | 0          | 279            | 695                    | 2719                 |  |
| 16:15:00    | 10                        | 14          | 14           | 0            | 0          | 38             | 31                        | 270         | 6            | 4            | 0          | 311            | 73                        | 24          | 16           | 0            | 0          | 113            | 14                        | 200         | 45           | 0            | 0          | 259            | 721                    | 2759                 |  |
| 16:30:00    | 4                         | 15          | 6            | 0            | 0          | 25             | 38                        | 254         | 2            | 2            | 0          | 296            | 63                        | 21          | 18           | 0            | 0          | 102            | 26                        | 196         | 49           | 1            | 0          | 272            | 695                    | 2782                 |  |
| 16:45:00    | 6                         | 15          | 14           | 0            | 0          | 35             | 20                        | 244         | 3            | 2            | 0          | 269            | 83                        | 36          | 15           | 0            | 0          | 134            | 24                        | 231         | 65           | 1            | 0          | 321            | 759                    | 2870                 |  |
| 17:00:00    | 0                         | 21          | 16           | 0            | 0          | 37             | 29                        | 291         | 3            | 2            | 0          | 325            | 60                        | 41          | 16           | 0            | 1          | 117            | 37                        | 223         | 61           | 0            | 0          | 321            | 800                    | 2975                 |  |
| 17:15:00    | 4                         | 26          | 20           | 0            | 0          | 50             | 31                        | 256         | 1            | 3            | 0          | 291            | 85                        | 36          | 12           | 0            | 5          | 133            | 28                        | 244         | 55           | 0            | 0          | 327            | 801                    | 3055                 |  |
| 17:30:00    | 2                         | 17          | 18           | 0            | 0          | 37             | 32                        | 246         | 4            | 1            | 0          | 283            | 81                        | 31          | 12           | 0            | 3          | 124            | 20                        | 250         | 50           | 0            | 0          | 320            | 764                    | 3124                 |  |
| 17:45:00    | 2                         | 15          | 19           | 0            | 0          | 36             | 28                        | 244         | 2            | 0            | 1          | 274            | 77                        | 20          | 17           | 0            | 3          | 114            | 31                        | 199         | 52           | 0            | 0          | 282            | 706                    | 3071                 |  |
| Grand Total | 149                       | 514         | 597          | 0            | 1          | 1260           | 600                       | 5412        | 117          | 27           | 20         | 6156           | 1518                      | 723         | 387          | 2            | 33         | 2630           | 871                       | 6300        | 1408         | 3            | 7          | 8582           | 18628                  | -                    |  |
| Approach%   | 11.8%                     | 40.8%       | 47.4%        | 0%           |            | -              | 9.7%                      | 87.9%       | 1.9%         | 0.4%         |            | -              | 57.7%                     | 27.5%       | 14.7%        | 0.1%         |            | -              | 10.1%                     | 73.4%       | 16.4%        | 0%           |            | -              | -                      | -                    |  |
| Totals %    | 0.8%                      | 2.8%        | 3.2%         | 0%           |            | 6.8%           | 3.2%                      | 29.1%       | 0.6%         | 0.1%         |            | 33%            | 8.1%                      | 3.9%        | 2.1%         | 0%           |            | 14.1%          | 4.7%                      | 33.8%       | 7.6%         | 0%           |            | 46.1%          | -                      | -                    |  |
| Heavy       | 7                         | 12          | 28           | 0            |            | -              | 23                        | 1018        | 8            | 0            |            | -              | 40                        | 14          | 19           | 0            |            | -              | 19                        | 1113        | 55           | 0            |            | -              | -                      | -                    |  |
| Heavy %     | 4.7%                      | 2.3%        | 4.7%         | 0%           |            | -              | 3.8%                      | 18.8%       | 6.8%         | 0%           |            | -              | 2.6%                      | 1.9%        | 4.9%         | 0%           |            | -              | 2.2%                      | 17.7%       | 3.9%         | 0%           |            | -              | -                      | -                    |  |
| Bicycles    | -                         | -           | -            | -            |            | -              | -                         | -           | -            | -            |            | -              | -                         | -           | -            | -            |            | -              | -                         | -           | -            | -            |            | -              | -                      | -                    |  |
| Bicycle %   | -                         | -           | -            | -            |            | -              | -                         | -           | -            | -            |            | -              | -                         | -           | -            | -            |            | -              | -                         | -           | -            | -            |            | -              | -                      | -                    |  |



Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (23.15 °C)

| Start Time             | N Approach<br>BRAMALEA RD |       |       |       |      |                | E Approach<br>MAYFIELD RD |       |       |       |      |                | S Approach<br>BRAMALEA RD |       |       |       |       |                | W Approach<br>MAYFIELD RD |       |       |       |      |                | Int. Total<br>(15 min) |
|------------------------|---------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|-------|----------------|---------------------------|-------|-------|-------|------|----------------|------------------------|
|                        | Left                      | Thru  | Right | UTurn | Peds | Approach Total | Left                      | Thru  | Right | UTurn | Peds | Approach Total | Left                      | Thru  | Right | UTurn | Peds  | Approach Total | Left                      | Thru  | Right | UTurn | Peds | Approach Total |                        |
| 07:30:00               | 7                         | 18    | 17    | 0     | 0    | 42             | 12                        | 137   | 4     | 0     | 0    | 153            | 21                        | 16    | 10    | 0     | 2     | 47             | 65                        | 307   | 33    | 0     | 0    | 405            | 647                    |
| 07:45:00               | 8                         | 44    | 58    | 0     | 0    | 110            | 17                        | 155   | 17    | 0     | 0    | 189            | 32                        | 63    | 12    | 0     | 1     | 107            | 107                       | 270   | 54    | 0     | 0    | 431            | 837                    |
| 08:00:00               | 20                        | 49    | 69    | 0     | 0    | 138            | 35                        | 172   | 8     | 2     | 0    | 217            | 30                        | 34    | 17    | 0     | 0     | 81             | 88                        | 258   | 48    | 0     | 0    | 394            | 830                    |
| 08:15:00               | 6                         | 25    | 15    | 0     | 0    | 46             | 17                        | 151   | 5     | 0     | 0    | 173            | 32                        | 20    | 12    | 0     | 0     | 64             | 29                        | 271   | 44    | 0     | 0    | 344            | 627                    |
| Grand Total            | 41                        | 136   | 159   | 0     | 0    | 336            | 81                        | 615   | 34    | 2     | 0    | 732            | 115                       | 133   | 51    | 0     | 3     | 299            | 289                       | 1106  | 179   | 0     | 0    | 1574           | 2941                   |
| Approach%              | 12.2%                     | 40.5% | 47.3% | 0%    |      | -              | 11.1%                     | 84%   | 4.6%  | 0.3%  |      | -              | 38.5%                     | 44.5% | 17.1% | 0%    |       | -              | 18.4%                     | 70.3% | 11.4% | 0%    |      | -              | -                      |
| Totals %               | 1.4%                      | 4.6%  | 5.4%  | 0%    |      | 11.4%          | 2.8%                      | 20.9% | 1.2%  | 0.1%  |      | 24.9%          | 3.9%                      | 4.5%  | 1.7%  | 0%    |       | 10.2%          | 9.8%                      | 37.6% | 6.1%  | 0%    |      | 53.5%          | -                      |
| PHF                    | 0.51                      | 0.69  | 0.58  | 0     |      | 0.61           | 0.58                      | 0.89  | 0.5   | 0.25  |      | 0.84           | 0.9                       | 0.53  | 0.75  | 0     |       | 0.7            | 0.68                      | 0.9   | 0.83  | 0     |      | 0.91           | -                      |
| Heavy                  | 4                         | 5     | 2     | 0     |      | 11             | 7                         | 164   | 2     | 0     |      | 173            | 4                         | 3     | 2     | 0     |       | 9              | 3                         | 134   | 4     | 0     |      | 141            | -                      |
| Heavy %                | 9.8%                      | 3.7%  | 1.3%  | 0%    |      | 3.3%           | 8.6%                      | 26.7% | 5.9%  | 0%    |      | 23.6%          | 3.5%                      | 2.3%  | 3.9%  | 0%    |       | 3%             | 1%                        | 12.1% | 2.2%  | 0%    |      | 9%             | -                      |
| Lights                 | 37                        | 131   | 157   | 0     |      | 325            | 74                        | 451   | 32    | 2     |      | 559            | 111                       | 130   | 49    | 0     |       | 290            | 286                       | 972   | 175   | 0     |      | 1433           | -                      |
| Lights %               | 90.2%                     | 96.3% | 98.7% | 0%    |      | 96.7%          | 91.4%                     | 73.3% | 94.1% | 100%  |      | 76.4%          | 96.5%                     | 97.7% | 96.1% | 0%    |       | 97%            | 99%                       | 87.9% | 97.8% | 0%    |      | 91%            | -                      |
| Single-Unit Trucks     | 0                         | 2     | 0     | 0     |      | 2              | 0                         | 65    | 0     | 0     |      | 65             | 2                         | 0     | 0     | 0     |       | 2              | 2                         | 55    | 2     | 0     |      | 59             | -                      |
| Single-Unit Trucks %   | 0%                        | 1.5%  | 0%    | 0%    |      | 0.6%           | 0%                        | 10.6% | 0%    | 0%    |      | 8.9%           | 1.7%                      | 0%    | 0%    | 0%    |       | 0.7%           | 0.7%                      | 5%    | 1.1%  | 0%    |      | 3.7%           | -                      |
| Buses                  | 4                         | 3     | 1     | 0     |      | 8              | 6                         | 30    | 2     | 0     |      | 38             | 2                         | 3     | 2     | 0     |       | 7              | 1                         | 42    | 1     | 0     |      | 44             | -                      |
| Buses %                | 9.8%                      | 2.2%  | 0.6%  | 0%    |      | 2.4%           | 7.4%                      | 4.9%  | 5.9%  | 0%    |      | 5.2%           | 1.7%                      | 2.3%  | 3.9%  | 0%    |       | 2.3%           | 0.3%                      | 3.8%  | 0.6%  | 0%    |      | 2.8%           | -                      |
| Articulated Trucks     | 0                         | 0     | 1     | 0     |      | 1              | 1                         | 69    | 0     | 0     |      | 70             | 0                         | 0     | 0     | 0     |       | 0              | 0                         | 37    | 1     | 0     |      | 38             | -                      |
| Articulated Trucks %   | 0%                        | 0%    | 0.6%  | 0%    |      | 0.3%           | 1.2%                      | 11.2% | 0%    | 0%    |      | 9.6%           | 0%                        | 0%    | 0%    | 0%    |       | 0%             | 0%                        | 3.3%  | 0.6%  | 0%    |      | 2.4%           | -                      |
| Pedestrians            | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 2     | -              | -                         | -     | -     | -     | 0    | -              | -                      |
| Pedestrians%           | -                         | -     | -     | -     | 0%   | -              | -                         | -     | -     | -     | 0%   | -              | -                         | -     | -     | -     | 66.7% | -              | -                         | -     | -     | -     | 0%   | -              | -                      |
| Bicycles on Crosswalk  | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 1     | -              | -                         | -     | -     | -     | 0    | -              | -                      |
| Bicycles on Crosswalk% | -                         | -     | -     | -     | 0%   | -              | -                         | -     | -     | -     | 0%   | -              | -                         | -     | -     | -     | 33.3% | -              | -                         | -     | -     | -     | 0%   | -              | -                      |



Turning Movement Count  
Location Name: MAYFIELD RD & BRAMALEA ROAD  
Date: Wed, Jun 01, 2022 Deployment Lead: Tasos Issaakidis

Peak Hour: 01:00 PM - 02:00 PM Weather: Light Rain (18.78 °C)

| Start Time             | N Approach<br>BRAMALEA RD |       |       |       |      |                | E Approach<br>MAYFIELD RD |       |       |       |      |                | S Approach<br>BRAMALEA RD |       |       |       |      |                | W Approach<br>MAYFIELD RD |       |       |       |      |                | Int. Total<br>(15 min) |
|------------------------|---------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|------|----------------|------------------------|
|                        | Left                      | Thru  | Right | UTurn | Peds | Approach Total | Left                      | Thru  | Right | UTurn | Peds | Approach Total | Left                      | Thru  | Right | UTurn | Peds | Approach Total | Left                      | Thru  | Right | UTurn | Peds | Approach Total |                        |
| 13:00:00               | 1                         | 14    | 7     | 0     | 0    | 22             | 11                        | 118   | 1     | 2     | 0    | 132            | 35                        | 22    | 9     | 0     | 0    | 66             | 12                        | 147   | 42    | 0     | 0    | 201            | 421                    |
| 13:15:00               | 4                         | 13    | 14    | 0     | 0    | 31             | 20                        | 140   | 3     | 3     | 0    | 166            | 38                        | 13    | 9     | 0     | 0    | 60             | 16                        | 128   | 36    | 0     | 3    | 180            | 437                    |
| 13:30:00               | 6                         | 8     | 19    | 0     | 0    | 33             | 13                        | 129   | 0     | 0     | 0    | 142            | 35                        | 13    | 10    | 1     | 0    | 59             | 13                        | 144   | 30    | 0     | 0    | 187            | 421                    |
| 13:45:00               | 1                         | 10    | 8     | 0     | 0    | 19             | 21                        | 143   | 1     | 0     | 1    | 165            | 40                        | 5     | 12    | 0     | 0    | 57             | 11                        | 138   | 44    | 0     | 0    | 193            | 434                    |
| Grand Total            | 12                        | 45    | 48    | 0     | 0    | 105            | 65                        | 530   | 5     | 5     | 1    | 605            | 148                       | 53    | 40    | 1     | 0    | 242            | 52                        | 557   | 152   | 0     | 3    | 761            | 1713                   |
| Approach%              | 11.4%                     | 42.9% | 45.7% | 0%    |      | -              | 10.7%                     | 87.6% | 0.8%  | 0.8%  |      | -              | 61.2%                     | 21.9% | 16.5% | 0.4%  |      | -              | 6.8%                      | 73.2% | 20%   | 0%    |      | -              | -                      |
| Totals %               | 0.7%                      | 2.6%  | 2.8%  | 0%    |      | 6.1%           | 3.8%                      | 30.9% | 0.3%  | 0.3%  |      | 35.3%          | 8.6%                      | 3.1%  | 2.3%  | 0.1%  |      | 14.1%          | 3%                        | 32.5% | 8.9%  | 0%    |      | 44.4%          | -                      |
| PHF                    | 0.5                       | 0.8   | 0.63  | 0     |      | 0.8            | 0.77                      | 0.93  | 0.42  | 0.42  |      | 0.91           | 0.93                      | 0.6   | 0.83  | 0.25  |      | 0.92           | 0.81                      | 0.95  | 0.86  | 0     |      | 0.95           | -                      |
| Heavy                  | 0                         | 0     | 1     | 0     |      | 1              | 5                         | 150   | 0     | 0     |      | 155            | 7                         | 2     | 1     | 0     |      | 10             | 2                         | 127   | 11    | 0     |      | 140            | -                      |
| Heavy %                | 0%                        | 0%    | 2.1%  | 0%    |      | 1%             | 7.7%                      | 28.3% | 0%    | 0%    |      | 25.6%          | 4.7%                      | 3.8%  | 2.5%  | 0%    |      | 4.1%           | 3.8%                      | 22.8% | 7.2%  | 0%    |      | 18.4%          | -                      |
| Lights                 | 12                        | 45    | 47    | 0     |      | 104            | 60                        | 380   | 5     | 5     |      | 450            | 141                       | 51    | 39    | 1     |      | 232            | 50                        | 430   | 141   | 0     |      | 621            | -                      |
| Lights %               | 100%                      | 100%  | 97.9% | 0%    |      | 99%            | 92.3%                     | 71.7% | 100%  | 100%  |      | 74.4%          | 95.3%                     | 96.2% | 97.5% | 100%  |      | 95.9%          | 96.2%                     | 77.2% | 92.8% | 0%    |      | 81.6%          | -                      |
| Single-Unit Trucks     | 0                         | 0     | 0     | 0     |      | 0              | 4                         | 60    | 0     | 0     |      | 64             | 5                         | 1     | 0     | 0     |      | 6              | 1                         | 39    | 7     | 0     |      | 47             | -                      |
| Single-Unit Trucks %   | 0%                        | 0%    | 0%    | 0%    |      | 0%             | 6.2%                      | 11.3% | 0%    | 0%    |      | 10.6%          | 3.4%                      | 1.9%  | 0%    | 0%    |      | 2.5%           | 1.9%                      | 7%    | 4.6%  | 0%    |      | 6.2%           | -                      |
| Buses                  | 0                         | 0     | 1     | 0     |      | 1              | 0                         | 16    | 0     | 0     |      | 16             | 0                         | 0     | 1     | 0     |      | 1              | 0                         | 4     | 3     | 0     |      | 7              | -                      |
| Buses %                | 0%                        | 0%    | 2.1%  | 0%    |      | 1%             | 0%                        | 3%    | 0%    | 0%    |      | 2.6%           | 0%                        | 0%    | 2.5%  | 0%    |      | 0.4%           | 0%                        | 0.7%  | 2%    | 0%    |      | 0.9%           | -                      |
| Articulated Trucks     | 0                         | 0     | 0     | 0     |      | 0              | 1                         | 74    | 0     | 0     |      | 75             | 2                         | 1     | 0     | 0     |      | 3              | 1                         | 84    | 1     | 0     |      | 86             | -                      |
| Articulated Trucks %   | 0%                        | 0%    | 0%    | 0%    |      | 0%             | 1.5%                      | 14%   | 0%    | 0%    |      | 12.4%          | 1.4%                      | 1.9%  | 0%    | 0%    |      | 1.2%           | 1.9%                      | 15.1% | 0.7%  | 0%    |      | 11.3%          | -                      |
| Pedestrians            | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | 1     | -    | -              | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 3    | -              | -                      |
| Pedestrians%           | -                         | -     | -     | -     | 0%   | -              | -                         | -     | -     | 25%   | -    | -              | -                         | -     | -     | 0%    | -    | -              | -                         | -     | -     | -     | 75%  | -              | -                      |
| Bicycles on Crosswalk  | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | 0     | -    | -              | -                         | -     | -     | 0     | -    | -              | -                         | -     | -     | -     | 0    | -              | -                      |
| Bicycles on Crosswalk% | -                         | -     | -     | -     | 0%   | -              | -                         | -     | -     | 0%    | -    | -              | -                         | -     | -     | 0%    | -    | -              | -                         | -     | -     | -     | 0%   | -              | -                      |



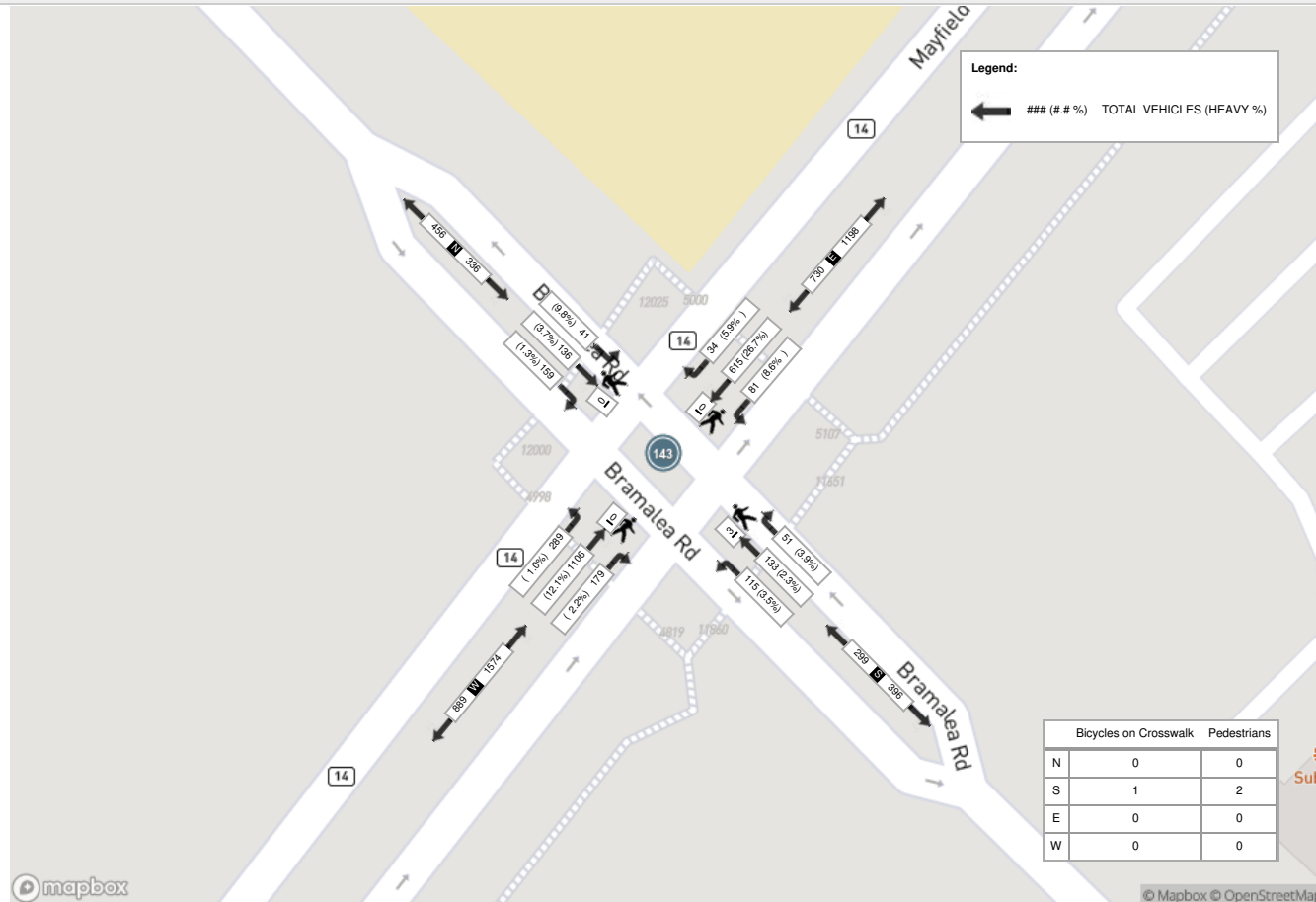
Turning Movement Count  
Location Name: MAYFIELD RD & BRAMALEA ROAD  
Date: Wed, Jun 01, 2022 Deployment Lead: Tasos Issaakidis

Peak Hour: 04:45 PM - 05:45 PM Weather: Broken Clouds (24.05 °C)

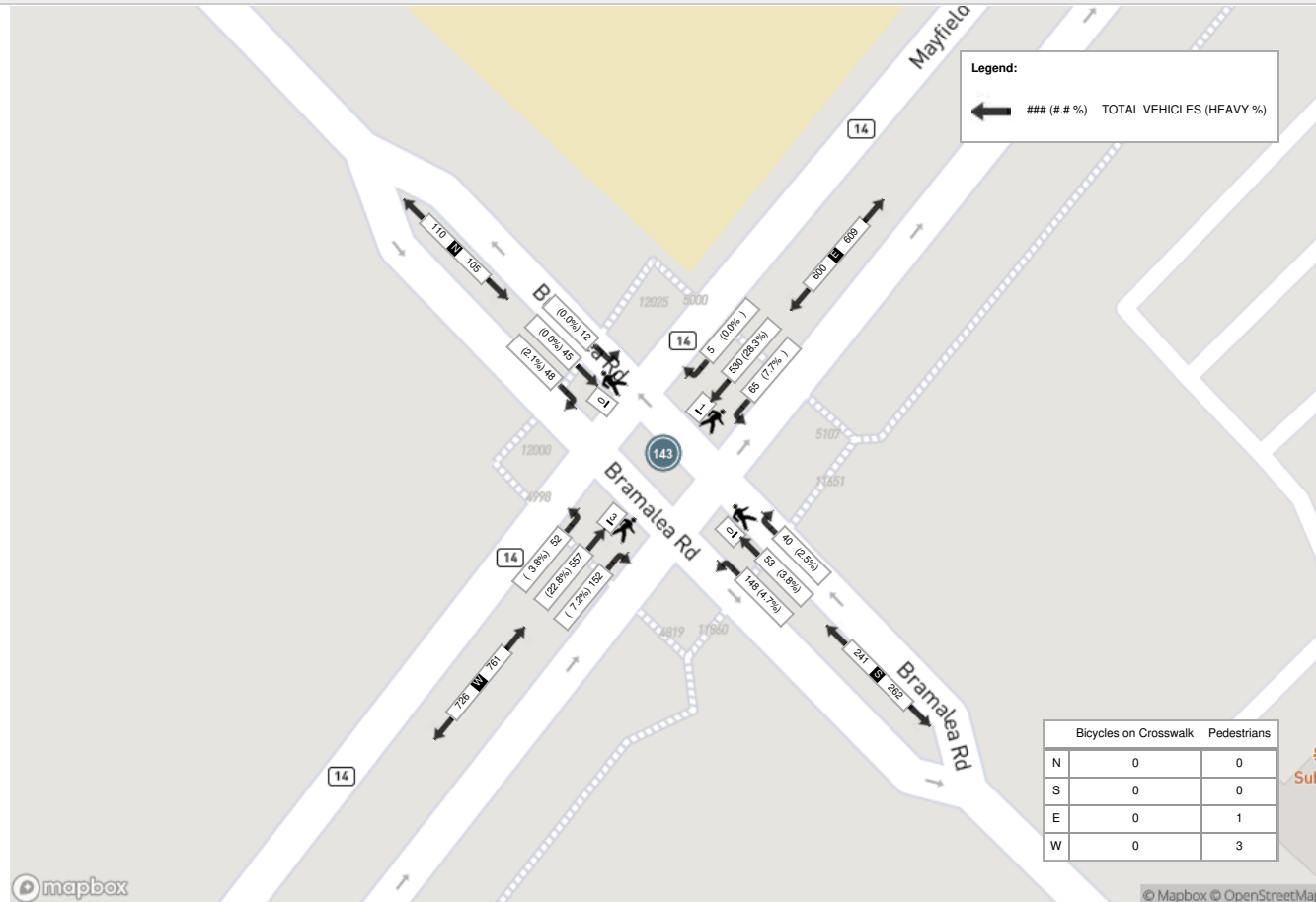
| Start Time             | N Approach<br>BRAMALEA RD |       |       |       |      |                | E Approach<br>MAYFIELD RD |       |       |       |      |                | S Approach<br>BRAMALEA RD |       |       |       |       |                | W Approach<br>MAYFIELD RD |       |       |       |      |                | Int. Total<br>(15 min) |
|------------------------|---------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|-------|----------------|---------------------------|-------|-------|-------|------|----------------|------------------------|
|                        | Left                      | Thru  | Right | UTurn | Peds | Approach Total | Left                      | Thru  | Right | UTurn | Peds | Approach Total | Left                      | Thru  | Right | UTurn | Peds  | Approach Total | Left                      | Thru  | Right | UTurn | Peds | Approach Total |                        |
| 16:45:00               | 6                         | 15    | 14    | 0     | 0    | 35             | 20                        | 244   | 3     | 2     | 0    | 269            | 83                        | 36    | 15    | 0     | 0     | 134            | 24                        | 231   | 65    | 1     | 0    | 321            | 759                    |
| 17:00:00               | 0                         | 21    | 16    | 0     | 0    | 37             | 29                        | 291   | 3     | 2     | 0    | 325            | 60                        | 41    | 16    | 0     | 1     | 117            | 37                        | 223   | 61    | 0     | 0    | 321            | 800                    |
| 17:15:00               | 4                         | 26    | 20    | 0     | 0    | 50             | 31                        | 256   | 1     | 3     | 0    | 291            | 85                        | 36    | 12    | 0     | 5     | 133            | 28                        | 244   | 55    | 0     | 0    | 327            | 801                    |
| 17:30:00               | 2                         | 17    | 18    | 0     | 0    | 37             | 32                        | 246   | 4     | 1     | 0    | 283            | 81                        | 31    | 12    | 0     | 3     | 124            | 20                        | 250   | 50    | 0     | 0    | 320            | 764                    |
| Grand Total            | 12                        | 79    | 68    | 0     | 0    | 159            | 112                       | 1037  | 11    | 8     | 0    | 1168           | 309                       | 144   | 55    | 0     | 9     | 508            | 109                       | 948   | 231   | 1     | 0    | 1289           | 3124                   |
| Approach%              | 7.5%                      | 49.7% | 42.8% | 0%    |      | -              | 9.6%                      | 88.8% | 0.9%  | 0.7%  |      | -              | 60.8%                     | 28.3% | 10.8% | 0%    |       | -              | 8.5%                      | 73.5% | 17.9% | 0.1%  |      | -              | -                      |
| Totals %               | 0.4%                      | 2.5%  | 2.2%  | 0%    |      | 5.1%           | 3.6%                      | 33.2% | 0.4%  | 0.3%  |      | 37.4%          | 9.9%                      | 4.6%  | 1.8%  | 0%    |       | 16.3%          | 3.5%                      | 30.3% | 7.4%  | 0%    |      | 41.3%          | -                      |
| PHF                    | 0.5                       | 0.76  | 0.85  | 0     |      | 0.8            | 0.88                      | 0.89  | 0.69  | 0.67  |      | 0.9            | 0.91                      | 0.88  | 0.86  | 0     |       | 0.95           | 0.74                      | 0.95  | 0.89  | 0.25  |      | 0.99           | -                      |
| Heavy                  | 0                         | 0     | 1     | 0     |      | 1              | 0                         | 92    | 0     | 0     |      | 92             | 6                         | 0     | 1     | 0     |       | 7              | 3                         | 152   | 2     | 0     |      | 157            | -                      |
| Heavy %                | 0%                        | 0%    | 1.5%  | 0%    |      | 0.6%           | 0%                        | 8.9%  | 0%    | 0%    |      | 7.9%           | 1.9%                      | 0%    | 1.8%  | 0%    |       | 1.4%           | 2.8%                      | 16%   | 0.9%  | 0%    |      | 12.2%          | -                      |
| Lights                 | 12                        | 79    | 67    | 0     |      | 158            | 112                       | 945   | 11    | 8     |      | 1076           | 303                       | 144   | 54    | 0     |       | 501            | 106                       | 796   | 229   | 1     |      | 1132           | -                      |
| Lights %               | 100%                      | 100%  | 98.5% | 0%    |      | 99.4%          | 100%                      | 91.1% | 100%  | 100%  |      | 92.1%          | 98.1%                     | 100%  | 98.2% | 0%    |       | 98.6%          | 97.2%                     | 84%   | 99.1% | 100%  |      | 87.8%          | -                      |
| Single-Unit Trucks     | 0                         | 0     | 0     | 0     |      | 0              | 0                         | 44    | 0     | 0     |      | 44             | 5                         | 0     | 0     | 0     |       | 5              | 0                         | 61    | 1     | 0     |      | 62             | -                      |
| Single-Unit Trucks %   | 0%                        | 0%    | 0%    | 0%    |      | 0%             | 0%                        | 4.2%  | 0%    | 0%    |      | 3.8%           | 1.6%                      | 0%    | 0%    | 0%    |       | 1%             | 0%                        | 6.4%  | 0.4%  | 0%    |      | 4.8%           | -                      |
| Buses                  | 0                         | 0     | 1     | 0     |      | 1              | 0                         | 4     | 0     | 0     |      | 4              | 0                         | 0     | 0     | 0     |       | 0              | 2                         | 7     | 1     | 0     |      | 10             | -                      |
| Buses %                | 0%                        | 0%    | 1.5%  | 0%    |      | 0.6%           | 0%                        | 0.4%  | 0%    | 0%    |      | 0.3%           | 0%                        | 0%    | 0%    | 0%    |       | 0%             | 1.8%                      | 0.7%  | 0.4%  | 0%    |      | 0.8%           | -                      |
| Articulated Trucks     | 0                         | 0     | 0     | 0     |      | 0              | 0                         | 44    | 0     | 0     |      | 44             | 1                         | 0     | 1     | 0     |       | 2              | 1                         | 84    | 0     | 0     |      | 85             | -                      |
| Articulated Trucks %   | 0%                        | 0%    | 0%    | 0%    |      | 0%             | 0%                        | 4.2%  | 0%    | 0%    |      | 3.8%           | 0.3%                      | 0%    | 1.8%  | 0%    |       | 0.4%           | 0.9%                      | 8.9%  | 0%    | 0%    |      | 6.6%           | -                      |
| Pedestrians            | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 8     | -              | -                         | -     | -     | -     | 0    | -              | -                      |
| Pedestrians%           | -                         | -     | -     | -     | 0%   | -              | -                         | -     | -     | -     | 0%   | -              | -                         | -     | -     | -     | 88.9% | -              | -                         | -     | -     | -     | 0%   | -              | -                      |
| Bicycles on Crosswalk  | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 0    | -              | -                         | -     | -     | -     | 1     | -              | -                         | -     | -     | -     | 0    | -              | -                      |
| Bicycles on Crosswalk% | -                         | -     | -     | -     | 0%   | -              | -                         | -     | -     | -     | 0%   | -              | -                         | -     | -     | -     | 11.1% | -              | -                         | -     | -     | -     | 0%   | -              | -                      |



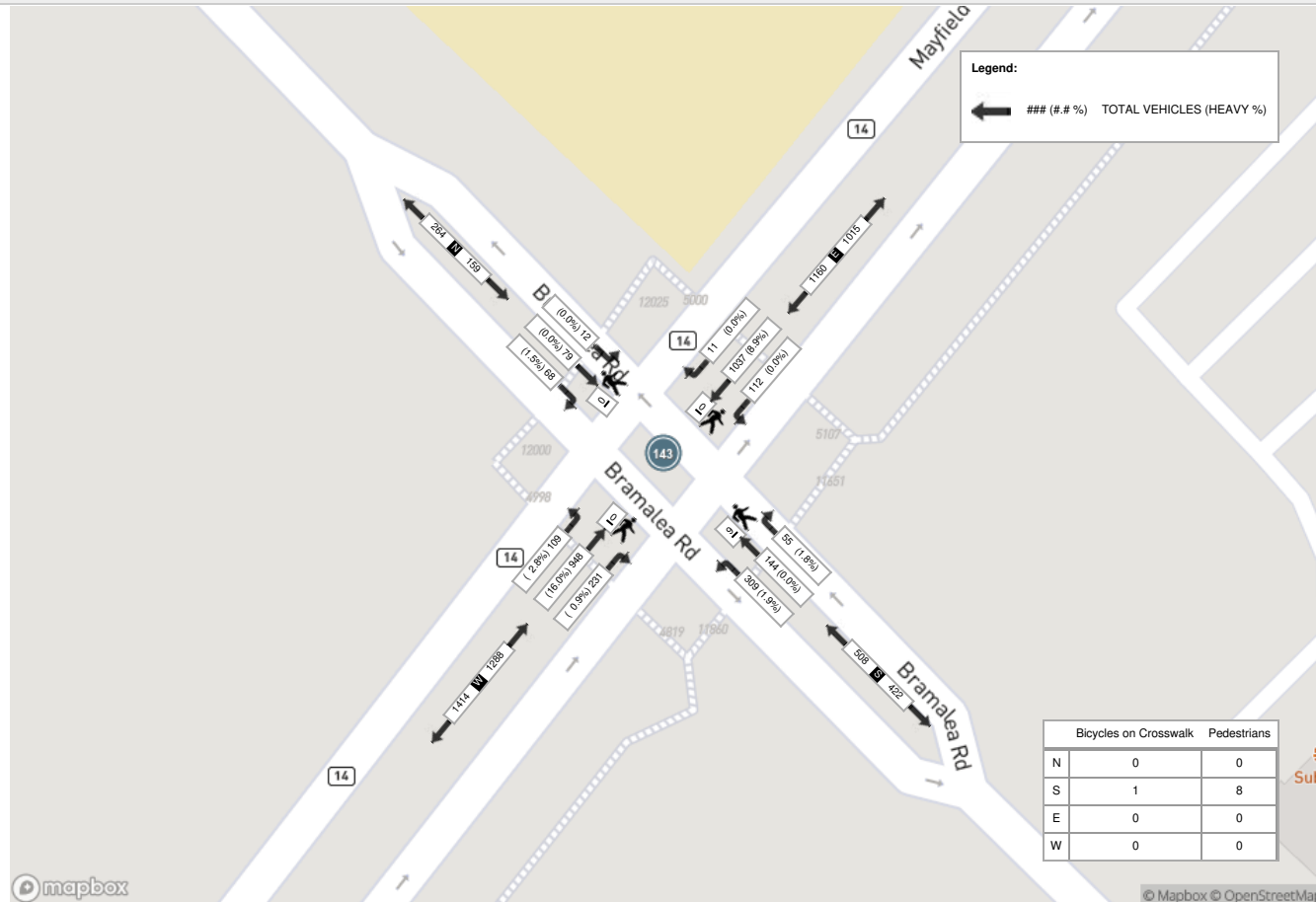
Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (23.15 °C)



Peak Hour: 01:00 PM - 02:00 PM Weather: Light Rain (18.78 °C)



Peak Hour: 04:45 PM - 05:45 PM Weather: Broken Clouds (24.05 °C)





Turning Movement Count (8 . OLD SCHOOL RD & BRAMALEA RD)

| Start Time  | N Approach<br>BRAMALEA RD |             |             |              |            |                | E Approach<br>OLD SCHOOL RD |             |             |              |            |                | S Approach<br>BRAMALEA RD |             |             |              |            |                | W Approach<br>OLD SCHOOL RD |             |             |              |            |                | Int. Total<br>(15 min) | Int. Total<br>(1 hr) |  |
|-------------|---------------------------|-------------|-------------|--------------|------------|----------------|-----------------------------|-------------|-------------|--------------|------------|----------------|---------------------------|-------------|-------------|--------------|------------|----------------|-----------------------------|-------------|-------------|--------------|------------|----------------|------------------------|----------------------|--|
|             | Right<br>N-W              | Thru<br>N-S | Left<br>N-E | UTurn<br>N:N | Peds<br>N: | Approach Total | Right<br>E:N                | Thru<br>E:W | Left<br>E:S | UTurn<br>E:E | Peds<br>E: | Approach Total | Right<br>S:E              | Thru<br>S:N | Left<br>S:W | UTurn<br>S:S | Peds<br>S: | Approach Total | Right<br>W:S                | Thru<br>W:E | Left<br>W:N | UTurn<br>W:W | Peds<br>W: | Approach Total |                        |                      |  |
| 07:00:00    | 4                         | 8           | 2           | 0            | 0          | 14             | 0                           | 24          | 2           | 0            | 0          | 26             | 5                         | 6           | 1           | 0            | 0          | 12             | 3                           | 53          | 7           | 0            | 0          | 63             | 115                    |                      |  |
| 07:15:00    | 1                         | 15          | 2           | 0            | 0          | 18             | 2                           | 18          | 3           | 0            | 0          | 23             | 0                         | 7           | 0           | 0            | 0          | 7              | 8                           | 56          | 6           | 0            | 0          | 70             | 118                    |                      |  |
| 07:30:00    | 4                         | 49          | 2           | 0            | 0          | 55             | 1                           | 32          | 8           | 0            | 0          | 41             | 4                         | 16          | 1           | 0            | 0          | 21             | 17                          | 68          | 3           | 0            | 0          | 88             | 205                    |                      |  |
| 07:45:00    | 16                        | 58          | 1           | 0            | 0          | 75             | 0                           | 27          | 8           | 0            | 0          | 35             | 5                         | 23          | 6           | 0            | 0          | 34             | 46                          | 72          | 0           | 0            | 0          | 118            | 262                    | 700                  |  |
| 08:00:00    | 6                         | 21          | 1           | 0            | 0          | 28             | 1                           | 20          | 4           | 0            | 0          | 25             | 5                         | 19          | 24          | 0            | 0          | 48             | 14                          | 47          | 1           | 0            | 0          | 62             | 163                    | 748                  |  |
| 08:15:00    | 6                         | 14          | 0           | 0            | 0          | 20             | 0                           | 24          | 3           | 0            | 0          | 27             | 5                         | 10          | 7           | 0            | 0          | 22             | 10                          | 64          | 2           | 0            | 0          | 76             | 145                    | 775                  |  |
| 08:30:00    | 2                         | 14          | 4           | 0            | 0          | 20             | 2                           | 18          | 2           | 0            | 0          | 22             | 1                         | 12          | 2           | 0            | 0          | 15             | 13                          | 64          | 2           | 0            | 0          | 79             | 136                    | 706                  |  |
| 08:45:00    | 6                         | 16          | 0           | 0            | 0          | 22             | 1                           | 17          | 6           | 0            | 0          | 24             | 3                         | 16          | 0           | 0            | 0          | 19             | 6                           | 64          | 1           | 0            | 0          | 71             | 136                    | 580                  |  |
| ***BREAK*** |                           |             |             |              |            |                |                             |             |             |              |            |                |                           |             |             |              |            |                |                             |             |             |              |            |                |                        |                      |  |
| 16:00:00    | 0                         | 15          | 3           | 0            | 0          | 18             | 0                           | 79          | 3           | 0            | 0          | 82             | 10                        | 50          | 21          | 0            | 0          | 81             | 5                           | 25          | 2           | 0            | 0          | 32             | 213                    |                      |  |
| 16:15:00    | 4                         | 12          | 2           | 0            | 0          | 18             | 3                           | 89          | 3           | 0            | 0          | 95             | 6                         | 43          | 12          | 0            | 0          | 61             | 5                           | 30          | 4           | 0            | 0          | 39             | 213                    |                      |  |
| 16:30:00    | 6                         | 14          | 2           | 0            | 0          | 22             | 1                           | 57          | 7           | 0            | 0          | 65             | 10                        | 48          | 16          | 0            | 0          | 74             | 9                           | 36          | 3           | 0            | 0          | 48             | 209                    |                      |  |
| 16:45:00    | 5                         | 10          | 1           | 0            | 0          | 16             | 5                           | 78          | 4           | 0            | 0          | 87             | 9                         | 41          | 13          | 0            | 0          | 63             | 5                           | 35          | 4           | 0            | 0          | 44             | 210                    | 845                  |  |
| 17:00:00    | 1                         | 15          | 0           | 0            | 0          | 16             | 4                           | 82          | 4           | 0            | 0          | 90             | 7                         | 43          | 11          | 0            | 0          | 61             | 3                           | 31          | 2           | 0            | 0          | 36             | 203                    | 835                  |  |
| 17:15:00    | 4                         | 12          | 1           | 0            | 0          | 17             | 1                           | 82          | 0           | 0            | 0          | 83             | 2                         | 34          | 10          | 0            | 0          | 46             | 3                           | 29          | 5           | 0            | 0          | 37             | 183                    | 805                  |  |
| 17:30:00    | 10                        | 14          | 2           | 0            | 0          | 26             | 0                           | 65          | 9           | 0            | 0          | 74             | 4                         | 26          | 11          | 0            | 0          | 41             | 7                           | 46          | 0           | 0            | 0          | 53             | 194                    | 790                  |  |
| 17:45:00    | 2                         | 7           | 3           | 0            | 0          | 12             | 1                           | 61          | 5           | 0            | 0          | 67             | 2                         | 17          | 7           | 0            | 0          | 26             | 4                           | 42          | 3           | 0            | 0          | 49             | 154                    | 734                  |  |
| Grand Total | 77                        | 294         | 26          | 0            | 0          | 397            | 22                          | 773         | 71          | 0            | 0          | 866            | 78                        | 411         | 142         | 0            | 0          | 631            | 158                         | 762         | 45          | 0            | 0          | 965            | 2859                   | -                    |  |
| Approach%   | 19.4%                     | 74.1%       | 6.5%        | 0%           |            | -              | 2.5%                        | 89.3%       | 8.2%        | 0%           |            | -              | 12.4%                     | 65.1%       | 22.5%       | 0%           |            | -              | 16.4%                       | 79%         | 4.7%        | 0%           |            | -              | -                      | -                    |  |
| Totals %    | 2.7%                      | 10.3%       | 0.9%        | 0%           |            | 13.9%          | 0.8%                        | 27%         | 2.5%        | 0%           |            | 30.3%          | 2.7%                      | 14.4%       | 5%          | 0%           |            | 22.1%          | 5.5%                        | 26.7%       | 1.6%        | 0%           |            | 33.8%          | -                      | -                    |  |
| Heavy       | 4                         | 7           | 1           | 0            |            | -              | 3                           | 25          | 5           | 0            |            | -              | 2                         | 10          | 3           | 0            |            | -              | 10                          | 13          | 8           | 0            |            | -              | -                      | -                    |  |
| Heavy %     | 5.2%                      | 2.4%        | 3.8%        | 0%           |            | -              | 13.6%                       | 3.2%        | 7%          | 0%           |            | -              | 2.6%                      | 2.4%        | 2.1%        | 0%           |            | -              | 6.3%                        | 1.7%        | 17.8%       | 0%           |            | -              | -                      | -                    |  |
| Bicycles    | 0                         | 0           | 0           | 0            |            | -              | 0                           | 0           | 0           | 0            |            | -              | 0                         | 1           | 1           | 0            |            | -              | 0                           | 0           | 0           | 0            |            | -              | -                      | -                    |  |
| Bicycle %   | 0%                        | 0%          | 0%          | 0%           |            | -              | 0%                          | 0%          | 0%          | 0%           |            | -              | 0%                        | 0.2%        | 0.7%        | 0%           |            | -              | 0%                          | 0%          | 0%          | 0%           |            | -              | -                      | -                    |  |



Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (4.48 °C)

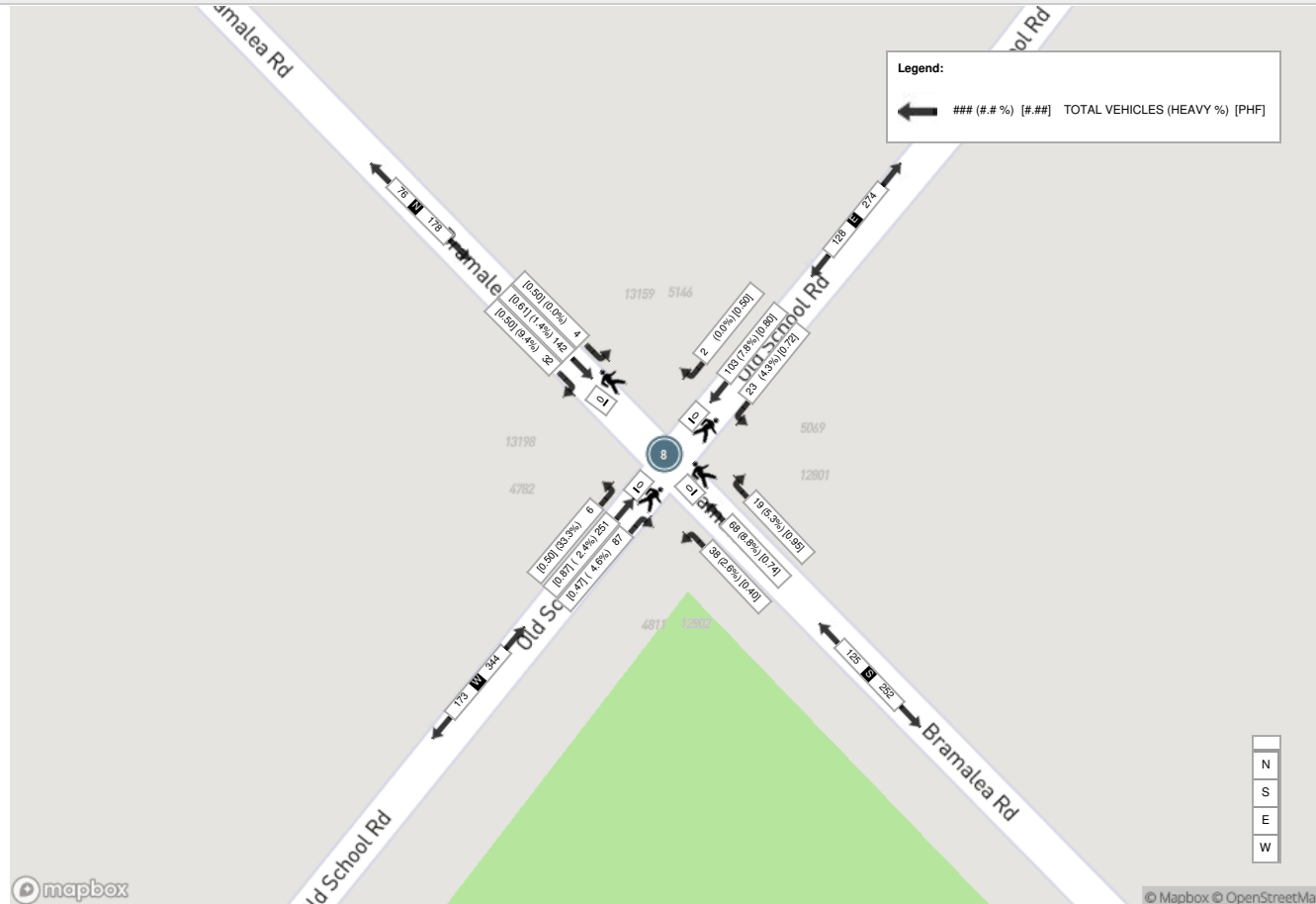
| Start Time           | N Approach<br>BRAMALEA RD |       |      |       |      |                | E Approach<br>OLD SCHOOL RD |       |       |       |      |                | S Approach<br>BRAMALEA RD |       |       |       |      |                | W Approach<br>OLD SCHOOL RD |       |       |       |      |                | Int. Total<br>(15 min) |
|----------------------|---------------------------|-------|------|-------|------|----------------|-----------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|------|----------------|-----------------------------|-------|-------|-------|------|----------------|------------------------|
|                      | Right                     | Thru  | Left | UTurn | Peds | Approach Total | Right                       | Thru  | Left  | UTurn | Peds | Approach Total | Right                     | Thru  | Left  | UTurn | Peds | Approach Total | Right                       | Thru  | Left  | UTurn | Peds | Approach Total |                        |
| 07:30:00             | 4                         | 49    | 2    | 0     | 0    | 55             | 1                           | 32    | 8     | 0     | 0    | 41             | 4                         | 16    | 1     | 0     | 0    | 21             | 17                          | 68    | 3     | 0     | 0    | 88             | 205                    |
| 07:45:00             | 16                        | 58    | 1    | 0     | 0    | 75             | 0                           | 27    | 8     | 0     | 0    | 35             | 5                         | 23    | 6     | 0     | 0    | 34             | 46                          | 72    | 0     | 0     | 0    | 118            | 262                    |
| 08:00:00             | 6                         | 21    | 1    | 0     | 0    | 28             | 1                           | 20    | 4     | 0     | 0    | 25             | 5                         | 19    | 24    | 0     | 0    | 48             | 14                          | 47    | 1     | 0     | 0    | 62             | 163                    |
| 08:15:00             | 6                         | 14    | 0    | 0     | 0    | 20             | 0                           | 24    | 3     | 0     | 0    | 27             | 5                         | 10    | 7     | 0     | 0    | 22             | 10                          | 64    | 2     | 0     | 0    | 76             | 145                    |
| Grand Total          | 32                        | 142   | 4    | 0     | 0    | 178            | 2                           | 103   | 23    | 0     | 0    | 128            | 19                        | 68    | 38    | 0     | 0    | 125            | 87                          | 251   | 6     | 0     | 0    | 344            | 775                    |
| Approach%            | 18%                       | 79.8% | 2.2% | 0%    |      | -              | 1.6%                        | 80.5% | 18%   | 0%    |      | -              | 15.2%                     | 54.4% | 30.4% | 0%    |      | -              | 25.3%                       | 73%   | 1.7%  | 0%    |      | -              | -                      |
| Totals %             | 4.1%                      | 18.3% | 0.5% | 0%    |      | 23%            | 0.3%                        | 13.3% | 3%    | 0%    |      | 16.5%          | 2.5%                      | 8.8%  | 4.9%  | 0%    |      | 16.1%          | 11.2%                       | 32.4% | 0.8%  | 0%    |      | 44.4%          | -                      |
| PHF                  | 0.5                       | 0.61  | 0.5  | 0     |      | 0.59           | 0.5                         | 0.8   | 0.72  | 0     |      | 0.78           | 0.95                      | 0.74  | 0.4   | 0     |      | 0.65           | 0.47                        | 0.87  | 0.5   | 0     |      | 0.73           | -                      |
| Heavy                | 3                         | 2     | 0    | 0     |      | 5              | 0                           | 8     | 1     | 0     |      | 9              | 1                         | 6     | 1     | 0     |      | 8              | 4                           | 6     | 2     | 0     |      | 12             | -                      |
| Heavy %              | 9.4%                      | 1.4%  | 0%   | 0%    |      | 2.8%           | 0%                          | 7.8%  | 4.3%  | 0%    |      | 7%             | 5.3%                      | 8.8%  | 2.6%  | 0%    |      | 6.4%           | 4.6%                        | 2.4%  | 33.3% | 0%    |      | 3.5%           | -                      |
| Lights               | 29                        | 140   | 4    | 0     |      | 173            | 2                           | 95    | 22    | 0     |      | 119            | 18                        | 62    | 37    | 0     |      | 117            | 83                          | 245   | 4     | 0     |      | 332            | -                      |
| Lights %             | 90.6%                     | 98.6% | 100% | 0%    |      | 97.2%          | 100%                        | 92.2% | 95.7% | 0%    |      | 93%            | 94.7%                     | 91.2% | 97.4% | 0%    |      | 93.6%          | 95.4%                       | 97.6% | 66.7% | 0%    |      | 96.5%          | -                      |
| Single-Unit Trucks   | 0                         | 0     | 0    | 0     |      | 0              | 0                           | 2     | 0     | 0     |      | 2              | 0                         | 0     | 1     | 0     |      | 1              | 1                           | 1     | 0     | 0     |      | 2              | -                      |
| Single-Unit Trucks % | 0%                        | 0%    | 0%   | 0%    |      | 0%             | 0%                          | 1.9%  | 0%    | 0%    |      | 1.6%           | 0%                        | 0%    | 2.6%  | 0%    |      | 0.8%           | 1.1%                        | 0.4%  | 0%    | 0%    |      | 0.6%           | -                      |
| Buses                | 3                         | 1     | 0    | 0     |      | 4              | 0                           | 6     | 1     | 0     |      | 7              | 1                         | 6     | 0     | 0     |      | 7              | 2                           | 5     | 2     | 0     |      | 9              | -                      |
| Buses %              | 9.4%                      | 0.7%  | 0%   | 0%    |      | 2.2%           | 0%                          | 5.8%  | 4.3%  | 0%    |      | 5.5%           | 5.3%                      | 8.8%  | 0%    | 0%    |      | 5.6%           | 2.3%                        | 2%    | 33.3% | 0%    |      | 2.6%           | -                      |
| Articulated Trucks   | 0                         | 1     | 0    | 0     |      | 1              | 0                           | 0     | 0     | 0     |      | 0              | 0                         | 0     | 0     | 0     |      | 0              | 1                           | 0     | 0     | 0     |      | 1              | -                      |
| Articulated Trucks % | 0%                        | 0.7%  | 0%   | 0%    |      | 0.6%           | 0%                          | 0%    | 0%    | 0%    |      | 0%             | 0%                        | 0%    | 0%    | 0%    |      | 0%             | 1.1%                        | 0%    | 0%    | 0%    |      | 0.3%           | -                      |
| Bicycles on Road     | 0                         | 0     | 0    | 0     | 0    | -              | 0                           | 0     | 0     | 0     | 0    | -              | 0                         | 0     | 0     | 0     | 0    | -              | 0                           | 0     | 0     | 0     | 0    | -              | -                      |
| Bicycles on Road%    | -                         | -     | -    | -     | %    | -              | -                           | -     | -     | -     | %    | -              | -                         | -     | -     | -     | %    | -              | -                           | -     | -     | -     | %    | -              | -                      |



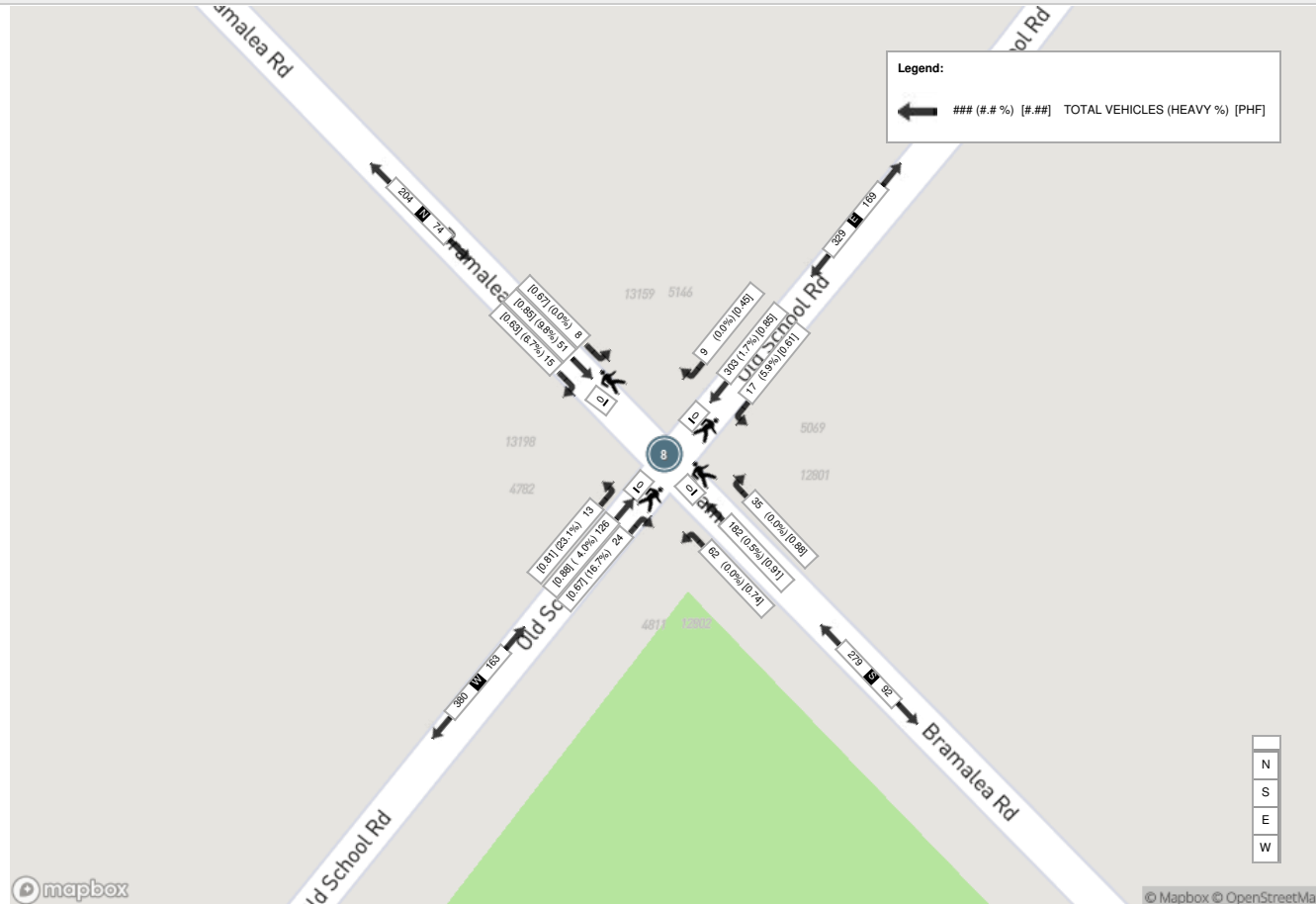
Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (7.51 °C)

| Start Time           | N Approach<br>BRAMALEA RD |       |       |       |      |                | E Approach<br>OLD SCHOOL RD |       |       |       |      |                | S Approach<br>BRAMALEA RD |       |       |       |      |                | W Approach<br>OLD SCHOOL RD |       |       |       |      |                | Int. Total<br>(15 min) |
|----------------------|---------------------------|-------|-------|-------|------|----------------|-----------------------------|-------|-------|-------|------|----------------|---------------------------|-------|-------|-------|------|----------------|-----------------------------|-------|-------|-------|------|----------------|------------------------|
|                      | Right                     | Thru  | Left  | UTurn | Peds | Approach Total | Right                       | Thru  | Left  | UTurn | Peds | Approach Total | Right                     | Thru  | Left  | UTurn | Peds | Approach Total | Right                       | Thru  | Left  | UTurn | Peds | Approach Total |                        |
| 16:00:00             | 0                         | 15    | 3     | 0     | 0    | 18             | 0                           | 79    | 3     | 0     | 0    | 82             | 10                        | 50    | 21    | 0     | 0    | 81             | 5                           | 25    | 2     | 0     | 0    | 32             | 213                    |
| 16:15:00             | 4                         | 12    | 2     | 0     | 0    | 18             | 3                           | 89    | 3     | 0     | 0    | 95             | 6                         | 43    | 12    | 0     | 0    | 61             | 5                           | 30    | 4     | 0     | 0    | 39             | 213                    |
| 16:30:00             | 6                         | 14    | 2     | 0     | 0    | 22             | 1                           | 57    | 7     | 0     | 0    | 65             | 10                        | 48    | 16    | 0     | 0    | 74             | 9                           | 36    | 3     | 0     | 0    | 48             | 209                    |
| 16:45:00             | 5                         | 10    | 1     | 0     | 0    | 16             | 5                           | 78    | 4     | 0     | 0    | 87             | 9                         | 41    | 13    | 0     | 0    | 63             | 5                           | 35    | 4     | 0     | 0    | 44             | 210                    |
| Grand Total          | 15                        | 51    | 8     | 0     | 0    | 74             | 9                           | 303   | 17    | 0     | 0    | 329            | 35                        | 182   | 62    | 0     | 0    | 279            | 24                          | 126   | 13    | 0     | 0    | 163            | 845                    |
| Approach%            | 20.3%                     | 68.9% | 10.8% | 0%    |      | -              | 2.7%                        | 92.1% | 5.2%  | 0%    |      | -              | 12.5%                     | 65.2% | 22.2% | 0%    |      | -              | 14.7%                       | 77.3% | 8%    | 0%    |      | -              | -                      |
| Totals %             | 1.8%                      | 6%    | 0.9%  | 0%    |      | 8.8%           | 1.1%                        | 35.9% | 2%    | 0%    |      | 38.9%          | 4.1%                      | 21.5% | 7.3%  | 0%    |      | 33%            | 2.8%                        | 14.9% | 1.5%  | 0%    |      | 19.3%          | -                      |
| PHF                  | 0.63                      | 0.85  | 0.67  | 0     |      | 0.84           | 0.45                        | 0.85  | 0.61  | 0     |      | 0.87           | 0.88                      | 0.91  | 0.74  | 0     |      | 0.86           | 0.67                        | 0.88  | 0.81  | 0     |      | 0.85           | -                      |
| Heavy                | 1                         | 5     | 0     | 0     |      | 6              | 0                           | 5     | 1     | 0     |      | 6              | 0                         | 1     | 0     | 0     |      | 1              | 4                           | 5     | 3     | 0     |      | 12             | -                      |
| Heavy %              | 6.7%                      | 9.8%  | 0%    | 0%    |      | 8.1%           | 0%                          | 1.7%  | 5.9%  | 0%    |      | 1.8%           | 0%                        | 0.5%  | 0%    | 0%    |      | 0.4%           | 16.7%                       | 4%    | 23.1% | 0%    |      | 7.4%           | -                      |
| Lights               | 14                        | 46    | 8     | 0     |      | 68             | 9                           | 298   | 16    | 0     |      | 323            | 35                        | 181   | 62    | 0     |      | 278            | 20                          | 121   | 10    | 0     |      | 151            | -                      |
| Lights %             | 93.3%                     | 90.2% | 100%  | 0%    |      | 91.9%          | 100%                        | 98.3% | 94.1% | 0%    |      | 98.2%          | 100%                      | 99.5% | 100%  | 0%    |      | 99.6%          | 83.3%                       | 96%   | 76.9% | 0%    |      | 92.6%          | -                      |
| Single-Unit Trucks   | 0                         | 2     | 0     | 0     |      | 2              | 0                           | 3     | 1     | 0     |      | 4              | 0                         | 0     | 0     | 0     |      | 0              | 2                           | 1     | 0     | 0     |      | 3              | -                      |
| Single-Unit Trucks % | 0%                        | 3.9%  | 0%    | 0%    |      | 2.7%           | 0%                          | 1%    | 5.9%  | 0%    |      | 1.2%           | 0%                        | 0%    | 0%    | 0%    |      | 0%             | 8.3%                        | 0.8%  | 0%    | 0%    |      | 1.8%           | -                      |
| Buses                | 1                         | 3     | 0     | 0     |      | 4              | 0                           | 2     | 0     | 0     |      | 2              | 0                         | 0     | 0     | 0     |      | 0              | 1                           | 3     | 3     | 0     |      | 7              | -                      |
| Buses %              | 6.7%                      | 5.9%  | 0%    | 0%    |      | 5.4%           | 0%                          | 0.7%  | 0%    | 0%    |      | 0.6%           | 0%                        | 0%    | 0%    | 0%    |      | 0%             | 4.2%                        | 2.4%  | 23.1% | 0%    |      | 4.3%           | -                      |
| Articulated Trucks   | 0                         | 0     | 0     | 0     |      | 0              | 0                           | 0     | 0     | 0     |      | 0              | 0                         | 1     | 0     | 0     |      | 1              | 1                           | 1     | 0     | 0     |      | 2              | -                      |
| Articulated Trucks % | 0%                        | 0%    | 0%    | 0%    |      | 0%             | 0%                          | 0%    | 0%    | 0%    |      | 0%             | 0%                        | 0.5%  | 0%    | 0%    |      | 0.4%           | 4.2%                        | 0.8%  | 0%    | 0%    |      | 1.2%           | -                      |
| Bicycles on Road     | 0                         | 0     | 0     | 0     | 0    | -              | 0                           | 0     | 0     | 0     | 0    | -              | 0                         | 0     | 0     | 0     | 0    | -              | 0                           | 0     | 0     | 0     | 0    | -              | -                      |
| Bicycles on Road%    | -                         | -     | -     | -     | %    | -              | -                           | -     | -     | %     |      | -              | -                         | -     | -     | %     |      | -              | -                           | -     | -     | %     |      | -              | -                      |

Peak Hour: 07:30 AM - 08:30 AM Weather: Broken Clouds (4.48 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather: Few Clouds (7.51 °C)





## **APPENDIX G**

### **Signal Timing Plans**

|                        |                                       |
|------------------------|---------------------------------------|
| <b>Project Number:</b> | <b>Dixie Road Industrial</b>          |
| <b>Project Name:</b>   | <b>7843-21</b>                        |
| <b>Study Location:</b> | <b>Dixie Road and Old School Road</b> |
| <b>Municipality:</b>   | <b>Caledon</b>                        |
| <b>Study Date:</b>     | <b>Tuesday November 14, 2023</b>      |
| <b>Study Time:</b>     | <b>7:30 - 8:00, 16:15 - 16:45</b>     |

## AM Signal Timing

[illegible]

## PM Signal Timing

[illegible]

**Project Number:** Dixie Road Industrial  
**Project Name:** 7843-21  
**Study Location:** Dixie Road and Old School Road  
**Municipality:** Caledon  
**Study Date:** Tuesday November 14, 2023  
**Study Time:** 7:30 - 8:00, 16:15 - 16:45

## AM Signal Timing

[illegible]

## PM Signal Timing

[illegible]

# REGIONAL MUNICIPALITY OF PEEL

## Traffic Signal Timing Parameters

|                         |                 |  |               |                  |
|-------------------------|-----------------|--|---------------|------------------|
| Database Date           | January 8, 2018 |  | Prepared Date | December 8, 2020 |
| Database Rev            | 27              |  | Completed By  | JP               |
| Timing Card / Field rev |                 |  | Checked By    | SJ               |

| Location | Dixie Road at Mayfield Road |                     |                        |        |           |             |                                          |         |           |
|----------|-----------------------------|---------------------|------------------------|--------|-----------|-------------|------------------------------------------|---------|-----------|
| Phase #  | Street Name - Direction     | Vehicle Minimum (s) | Pedestrian Minimum (s) |        | Amber (s) | All Red (s) | TIME PERIOD (s)<br>(Green+Amber+All Red) |         |           |
|          |                             |                     | WALK                   | FDWALK |           |             | AM SPLITS                                | OFF MAX | PM SPLITS |
| 1        | Mayfield Road - WB P.P. LT  | 5                   | 0                      | 0      | 30        | 0           | 10                                       | 13      | 10        |
| 2        | Mayfield Road - EB          | 8                   | 8                      | 30     | 46        | 23          | 60                                       | 16.9    | 60        |
| 3        | Not in use                  | -                   | -                      | -      | -         | -           | -                                        | -       | -         |
| 4        | Dixie Road - NB             | 8                   | 8                      | 33     | 46        | 23          | 50                                       | 46.9    | 50        |
| 5        | Mayfield Road - EB P.P. LT  | 5                   | 0                      | 0      | 30        | 0           | 10                                       | 13      | 10        |
| 6        | Mayfield Road - WB          | 8                   | 8                      | 30     | 46        | 23          | 60                                       | 16.9    | 60        |
| 7        | Not in use                  | -                   | -                      | -      | -         | -           | -                                        | -       | -         |
| 8        | Dixie Road - SB             | 8                   | 8                      | 33     | 46        | 23          | 50                                       | 46.9    | 50        |

|                                                                     |                   |             |                         |                   |
|---------------------------------------------------------------------|-------------------|-------------|-------------------------|-------------------|
| <b>System Control</b><br>No<br><br><b>Semi-Actuated Mode</b><br>Yes | <b>TIME (M-F)</b> | <b>PEAK</b> | <b>CYCLE LENGTH (s)</b> | <b>OFFSET (s)</b> |
|                                                                     | 07:00 - 09:00     | AM          | 120                     | 44                |
|                                                                     | FREE              | OFF         | 0                       | 0                 |
|                                                                     | 15:00 - 18:00     | PM          | 120                     | 32                |

# REGIONAL MUNICIPALITY OF PEEL

## Traffic Signal Timing Parameters

|                         |              |  |               |                  |
|-------------------------|--------------|--|---------------|------------------|
| Database Date           | June 5, 2015 |  | Prepared Date | December 8, 2020 |
| Database Rev            | 26           |  | Completed By  | JP               |
| Timing Card / Field rev | -            |  | Checked By    | SJ               |

| Location | Mayfield Road at Bramalea Road |                     |                        |        |           |             |                                          |            |           |
|----------|--------------------------------|---------------------|------------------------|--------|-----------|-------------|------------------------------------------|------------|-----------|
| Phase #  | Street Name - Direction        | Vehicle Minimum (s) | Pedestrian Minimum (s) |        | Amber (s) | All Red (s) | TIME PERIOD (s)<br>(Green+Amber+All Red) |            |           |
|          |                                |                     | WALK                   | FDWALK |           |             | AM SPLITS                                | OFF SPLITS | PM SPLITS |
| 1        | Not in use                     | -                   | -                      | -      | -         | -           | -                                        | -          | -         |
| 2        | Mayfield Road - EB             | 12                  | 8                      | 40     | 4         | 3.2         | 70                                       | 59         | 70        |
| 3        | Bramalea Road - SB PP LT       | 5                   | 0                      | 0      | 3         | 0           | 9                                        | 0          | 9         |
| 4        | Bramalea Road - NB             | 8                   | 8                      | 39     | 4         | 3.1         | 56                                       | 56         | 56        |
| 5        | Mayfield Road - EB PP LT       | 5                   | 0                      | 0      | 3         | 0           | 13                                       | 0          | 12        |
| 6        | Mayfield Road - WB             | 12                  | 8                      | 40     | 4         | 3.2         | 57                                       | 59         | 58        |
| 7        | Not in use                     | -                   | -                      | -      | -         | -           | -                                        | -          | -         |
| 8        | Bramalea Road - SB             | 8                   | 8                      | 39     | 4         | 3.1         | 65                                       | 56         | 65        |

|                                                                     |                   |             |                         |                   |
|---------------------------------------------------------------------|-------------------|-------------|-------------------------|-------------------|
| <b>System Control</b><br>No<br><br><b>Semi-Actuated Mode</b><br>Yes | <b>TIME (M-F)</b> | <b>PEAK</b> | <b>CYCLE LENGTH (s)</b> | <b>OFFSET (s)</b> |
|                                                                     | 06:00 - 09:00     | AM          | 135                     | 0                 |
|                                                                     | 09:00 - 14:30     | OFF         | 115                     | 0                 |
|                                                                     | 14:30 - 19:00     | PM          | 135                     | 16                |

## **APPENDIX H:**

### **Synchro Worksheets**

## Queues

### 1: Dixie Road & Mayfield Road

Existing AM Peak Hour

|                        |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |   |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |    |  |  |    |  |  |  |  |  |  |
| Traffic Volume (vph)   | 260                                                                               | 1610                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 745                                                                                                                                                                                                                                                   | 130                                                                               | 110                                                                                 | 45                                                                                  | 60                                                                                  | 230                                                                                 | 215                                                                                 |
| Future Volume (vph)    | 260                                                                               | 1610                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 745                                                                                                                                                                                                                                                   | 130                                                                               | 110                                                                                 | 45                                                                                  | 60                                                                                  | 230                                                                                 | 215                                                                                 |
| Lane Group Flow (vph)  | 295                                                                               | 1830                                                                                                                                                                                                                                                  | 318                                                                               | 68                                                                                | 892                                                                                                                                                                                                                                                   | 148                                                                               | 125                                                                                 | 51                                                                                  | 68                                                                                  | 261                                                                                 | 244                                                                                 |
| Turn Type              | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                              | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                              | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       | 5                                                                                 | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                   | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |
| Permitted Phases       | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       | 4                                                                                 |                                                                                     | 4                                                                                   | 8                                                                                   |                                                                                     | 8                                                                                   |
| Detector Phase         | 5                                                                                 | 2                                                                                                                                                                                                                                                     | 2                                                                                 | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 4                                                                                 | 4                                                                                   | 4                                                                                   | 8                                                                                   | 8                                                                                   | 8                                                                                   |
| Switch Phase           |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 8.0                                                                                                                                                                                                                                                   | 8.0                                                                               | 5.0                                                                               | 8.0                                                                                                                                                                                                                                                   | 8.0                                                                               | 8.0                                                                                 | 8.0                                                                                 | 8.0                                                                                 | 8.0                                                                                 | 8.0                                                                                 |
| Minimum Split (s)      | 9.5                                                                               | 44.9                                                                                                                                                                                                                                                  | 44.9                                                                              | 9.5                                                                               | 44.9                                                                                                                                                                                                                                                  | 47.9                                                                              | 47.9                                                                                | 47.9                                                                                | 47.9                                                                                | 47.9                                                                                | 47.9                                                                                |
| Total Split (s)        | 10.0                                                                              | 60.0                                                                                                                                                                                                                                                  | 60.0                                                                              | 10.0                                                                              | 60.0                                                                                                                                                                                                                                                  | 50.0                                                                              | 50.0                                                                                | 50.0                                                                                | 50.0                                                                                | 50.0                                                                                | 50.0                                                                                |
| Total Split (%)        | 8.3%                                                                              | 50.0%                                                                                                                                                                                                                                                 | 50.0%                                                                             | 8.3%                                                                              | 50.0%                                                                                                                                                                                                                                                 | 41.7%                                                                             | 41.7%                                                                               | 41.7%                                                                               | 41.7%                                                                               | 41.7%                                                                               | 41.7%                                                                               |
| Yellow Time (s)        | 3.0                                                                               | 4.6                                                                                                                                                                                                                                                   | 4.6                                                                               | 3.5                                                                               | 4.6                                                                                                                                                                                                                                                   | 4.6                                                                               | 4.6                                                                                 | 4.6                                                                                 | 4.6                                                                                 | 4.6                                                                                 | 4.6                                                                                 |
| All-Red Time (s)       | 0.0                                                                               | 2.3                                                                                                                                                                                                                                                   | 2.3                                                                               | 0.0                                                                               | 2.3                                                                                                                                                                                                                                                   | 2.3                                                                               | 2.3                                                                                 | 2.3                                                                                 | 2.3                                                                                 | 2.3                                                                                 | 2.3                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 3.0                                                                               | 6.9                                                                                                                                                                                                                                                   | 6.9                                                                               | 3.5                                                                               | 6.9                                                                                                                                                                                                                                                   | 6.9                                                                               | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 |
| Lead/Lag               | Lead                                                                              | Lag                                                                                                                                                                                                                                                   | Lag                                                                               | Lead                                                                              | Lag                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                               | Yes                                                                                                                                                                                                                                                   | Yes                                                                               | Yes                                                                               | Yes                                                                                                                                                                                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | C-Min                                                                                                                                                                                                                                                 | C-Min                                                                             | None                                                                              | C-Min                                                                                                                                                                                                                                                 | None                                                                              | None                                                                                | None                                                                                | None                                                                                | None                                                                                | None                                                                                |
| v/c Ratio              | 0.66                                                                              | 0.64                                                                                                                                                                                                                                                  | 0.31                                                                              | 0.39                                                                              | 0.46                                                                                                                                                                                                                                                  | 1.01                                                                              | 0.36                                                                                | 0.16                                                                                | 0.35                                                                                | 0.72                                                                                | 0.59                                                                                |
| Control Delay          | 19.0                                                                              | 19.5                                                                                                                                                                                                                                                  | 2.7                                                                               | 15.9                                                                              | 24.9                                                                                                                                                                                                                                                  | 122.7                                                                             | 40.9                                                                                | 5.7                                                                                 | 42.5                                                                                | 54.4                                                                                | 14.9                                                                                |
| Queue Delay            | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 19.0                                                                              | 19.5                                                                                                                                                                                                                                                  | 2.7                                                                               | 15.9                                                                              | 24.9                                                                                                                                                                                                                                                  | 122.7                                                                             | 40.9                                                                                | 5.7                                                                                 | 42.5                                                                                | 54.4                                                                                | 14.9                                                                                |
| Queue Length 50th (m)  | 24.8                                                                              | 104.9                                                                                                                                                                                                                                                 | 0.0                                                                               | 4.7                                                                               | 55.6                                                                                                                                                                                                                                                  | ~39.0                                                                             | 26.7                                                                                | 0.0                                                                                 | 14.5                                                                                | 60.8                                                                                | 10.1                                                                                |
| Queue Length 95th (m)  | #78.1                                                                             | 155.3                                                                                                                                                                                                                                                 | 14.5                                                                              | 12.4                                                                              | 64.9                                                                                                                                                                                                                                                  | #63.4                                                                             | 39.0                                                                                | 6.0                                                                                 | 24.9                                                                                | 78.3                                                                                | 30.6                                                                                |
| Internal Link Dist (m) |                                                                                   | 980.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                   | 554.7                                                                                                                                                                                                                                                 |                                                                                   | 844.0                                                                               |                                                                                     |                                                                                     | 481.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 155.0                                                                             |                                                                                                                                                                                                                                                       | 115.0                                                                             | 150.0                                                                             |                                                                                                                                                                                                                                                       | 140.0                                                                             |                                                                                     | 65.0                                                                                | 100.0                                                                               |                                                                                     | 170.0                                                                               |
| Base Capacity (vph)    | 450                                                                               | 2876                                                                                                                                                                                                                                                  | 1040                                                                              | 177                                                                               | 2002                                                                                                                                                                                                                                                  | 244                                                                               | 579                                                                                 | 494                                                                                 | 323                                                                                 | 600                                                                                 | 565                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.66                                                                              | 0.64                                                                                                                                                                                                                                                  | 0.31                                                                              | 0.38                                                                              | 0.45                                                                                                                                                                                                                                                  | 0.61                                                                              | 0.22                                                                                | 0.10                                                                                | 0.21                                                                                | 0.43                                                                                | 0.43                                                                                |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 9.5 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

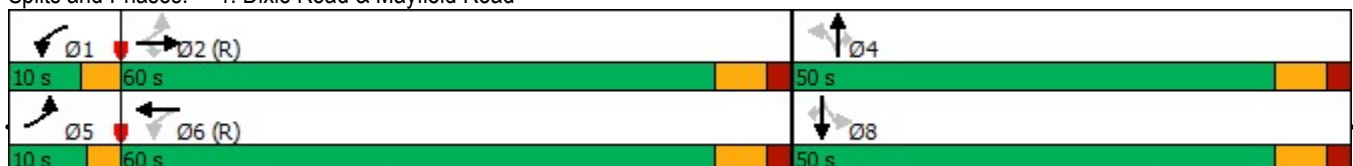
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

#### Splits and Phases: 1: Dixie Road & Mayfield Road



EX.syn

# HCM Signalized Intersection Capacity Analysis

## 1: Dixie Road & Mayfield Road

Existing AM Peak Hour

|                                   |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |   |  |  |  |                                                                                      |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                                                                                                     | SBR                                                                                 |
| Lane Configurations               |  |    |  |  |    |                                                                                   |  |  |  |  |   |  |
| Traffic Volume (vph)              | 260                                                                               | 1610                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 745                                                                                                                                                                                                                                                   | 40                                                                                | 130                                                                                 | 110                                                                                 | 45                                                                                  | 60                                                                                  | 230                                                                                                                                                                     | 215                                                                                 |
| Future Volume (vph)               | 260                                                                               | 1610                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 745                                                                                                                                                                                                                                                   | 40                                                                                | 130                                                                                 | 110                                                                                 | 45                                                                                  | 60                                                                                  | 230                                                                                                                                                                     | 215                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                                                                                                                                                                                                  | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                                                                                                  | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                                                                                                    | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                                                                                                                                                                                                   | 3.5                                                                               | 3.5                                                                               | 3.7                                                                                                                                                                                                                                                   | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                                                                                                     | 3.5                                                                                 |
| Total Lost time (s)               | 3.0                                                                               | 6.9                                                                                                                                                                                                                                                   | 6.9                                                                               | 3.5                                                                               | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                                                                                                     | 6.9                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 0.91                                                                                                                                                                                                                                                  | 1.00                                                                              | 1.00                                                                              | 0.91                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  | 0.97                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                | 1.00                                                                                | 1.00                                                                                                                                                                    | 0.98                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  | 0.85                                                                              | 1.00                                                                              | 0.99                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                                                                                                    | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                                                                                                                                                                                                  | 1.00                                                                              | 0.95                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Satd. Flow (prot)                 | 1322                                                                              | 4856                                                                                                                                                                                                                                                  | 1537                                                                              | 1539                                                                              | 4516                                                                                                                                                                                                                                                  |                                                                                   | 1664                                                                                | 1614                                                                                | 1257                                                                                | 1270                                                                                | 1671                                                                                                                                                                    | 1227                                                                                |
| Flt Permitted                     | 0.24                                                                              | 1.00                                                                                                                                                                                                                                                  | 1.00                                                                              | 0.11                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 0.39                                                                                | 1.00                                                                                | 1.00                                                                                | 0.67                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Satd. Flow (perm)                 | 338                                                                               | 4856                                                                                                                                                                                                                                                  | 1537                                                                              | 172                                                                               | 4516                                                                                                                                                                                                                                                  |                                                                                   | 681                                                                                 | 1614                                                                                | 1257                                                                                | 901                                                                                 | 1671                                                                                                                                                                    | 1227                                                                                |
| Peak-hour factor, PHF             | 0.88                                                                              | 0.88                                                                                                                                                                                                                                                  | 0.88                                                                              | 0.88                                                                              | 0.88                                                                                                                                                                                                                                                  | 0.88                                                                              | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                                                                                                    | 0.88                                                                                |
| Adj. Flow (vph)                   | 295                                                                               | 1830                                                                                                                                                                                                                                                  | 318                                                                               | 68                                                                                | 847                                                                                                                                                                                                                                                   | 45                                                                                | 148                                                                                 | 125                                                                                 | 51                                                                                  | 68                                                                                  | 261                                                                                                                                                                     | 244                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 131                                                                               | 0                                                                                 | 5                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 40                                                                                  | 0                                                                                   | 0                                                                                                                                                                       | 153                                                                                 |
| Lane Group Flow (vph)             | 295                                                                               | 1830                                                                                                                                                                                                                                                  | 187                                                                               | 68                                                                                | 887                                                                                                                                                                                                                                                   | 0                                                                                 | 148                                                                                 | 125                                                                                 | 11                                                                                  | 68                                                                                  | 261                                                                                                                                                                     | 91                                                                                  |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                                                                                                                                                                                       | 5                                                                                 | 5                                                                                 |                                                                                                                                                                                                                                                       |                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                                                                                                         | 5                                                                                   |
| Heavy Vehicles (%)                | 35%                                                                               | 8%                                                                                                                                                                                                                                                    | 1%                                                                                | 16%                                                                               | 15%                                                                                                                                                                                                                                                   | 20%                                                                               | 7%                                                                                  | 19%                                                                                 | 25%                                                                                 | 40%                                                                                 | 15%                                                                                                                                                                     | 28%                                                                                 |
| Turn Type                         | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                              | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                                                                                                      | Perm                                                                                |
| Protected Phases                  | 5                                                                                 | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                                                                                                       |                                                                                     |
| Permitted Phases                  | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       |                                                                                   | 4                                                                                   |                                                                                     | 4                                                                                   | 8                                                                                   |                                                                                                                                                                         | 8                                                                                   |
| Actuated Green, G (s)             | 80.3                                                                              | 70.4                                                                                                                                                                                                                                                  | 70.4                                                                              | 57.7                                                                              | 51.3                                                                                                                                                                                                                                                  |                                                                                   | 25.9                                                                                | 25.9                                                                                | 25.9                                                                                | 25.9                                                                                | 25.9                                                                                                                                                                    | 25.9                                                                                |
| Effective Green, g (s)            | 80.3                                                                              | 70.4                                                                                                                                                                                                                                                  | 70.4                                                                              | 57.7                                                                              | 51.3                                                                                                                                                                                                                                                  |                                                                                   | 25.9                                                                                | 25.9                                                                                | 25.9                                                                                | 25.9                                                                                | 25.9                                                                                                                                                                    | 25.9                                                                                |
| Actuated g/C Ratio                | 0.67                                                                              | 0.59                                                                                                                                                                                                                                                  | 0.59                                                                              | 0.48                                                                              | 0.43                                                                                                                                                                                                                                                  |                                                                                   | 0.22                                                                                | 0.22                                                                                | 0.22                                                                                | 0.22                                                                                | 0.22                                                                                                                                                                    | 0.22                                                                                |
| Clearance Time (s)                | 3.0                                                                               | 6.9                                                                                                                                                                                                                                                   | 6.9                                                                               | 3.5                                                                               | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                                                                                                     | 6.9                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                                                                                                                                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                                                                                                                                                                                   |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                                                                                                     | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 439                                                                               | 2848                                                                                                                                                                                                                                                  | 901                                                                               | 155                                                                               | 1930                                                                                                                                                                                                                                                  |                                                                                   | 146                                                                                 | 348                                                                                 | 271                                                                                 | 194                                                                                 | 360                                                                                                                                                                     | 264                                                                                 |
| v/s Ratio Prot                    | c0.15                                                                             | 0.38                                                                                                                                                                                                                                                  |                                                                                   | 0.02                                                                              | 0.20                                                                                                                                                                                                                                                  |                                                                                   |                                                                                     | 0.08                                                                                |                                                                                     |                                                                                     | 0.16                                                                                                                                                                    |                                                                                     |
| v/s Ratio Perm                    | c0.30                                                                             |                                                                                                                                                                                                                                                       | 0.12                                                                              | 0.19                                                                              |                                                                                                                                                                                                                                                       |                                                                                   | c0.22                                                                               |                                                                                     | 0.01                                                                                | 0.08                                                                                |                                                                                                                                                                         | 0.07                                                                                |
| v/c Ratio                         | 0.67                                                                              | 0.64                                                                                                                                                                                                                                                  | 0.21                                                                              | 0.44                                                                              | 0.46                                                                                                                                                                                                                                                  |                                                                                   | 1.01                                                                                | 0.36                                                                                | 0.04                                                                                | 0.35                                                                                | 0.72                                                                                                                                                                    | 0.35                                                                                |
| Uniform Delay, d1                 | 10.2                                                                              | 16.5                                                                                                                                                                                                                                                  | 11.7                                                                              | 17.0                                                                              | 24.5                                                                                                                                                                                                                                                  |                                                                                   | 47.0                                                                                | 40.0                                                                                | 37.2                                                                                | 39.9                                                                                | 43.7                                                                                                                                                                    | 39.9                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Incremental Delay, d2             | 4.0                                                                               | 1.1                                                                                                                                                                                                                                                   | 0.5                                                                               | 2.0                                                                               | 0.8                                                                                                                                                                                                                                                   |                                                                                   | 78.1                                                                                | 0.6                                                                                 | 0.1                                                                                 | 1.1                                                                                 | 7.1                                                                                                                                                                     | 0.8                                                                                 |
| Delay (s)                         | 14.2                                                                              | 17.6                                                                                                                                                                                                                                                  | 12.2                                                                              | 19.0                                                                              | 25.3                                                                                                                                                                                                                                                  |                                                                                   | 125.2                                                                               | 40.6                                                                                | 37.3                                                                                | 41.0                                                                                | 50.8                                                                                                                                                                    | 40.7                                                                                |
| Level of Service                  | B                                                                                 | B                                                                                                                                                                                                                                                     | B                                                                                 | B                                                                                 | C                                                                                                                                                                                                                                                     |                                                                                   | F                                                                                   | D                                                                                   | D                                                                                   | D                                                                                   | D                                                                                                                                                                       | D                                                                                   |
| Approach Delay (s)                |                                                                                   | 16.5                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 24.8                                                                                                                                                                                                                                                  |                                                                                   |                                                                                     | 78.7                                                                                |                                                                                     |                                                                                     | 45.3                                                                                                                                                                    |                                                                                     |
| Approach LOS                      |                                                                                   | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | C                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | D                                                                                                                                                                       |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                                                                                                                                                                                       | 26.9                                                                              |                                                                                   |                                                                                                                                                                                                                                                       | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                                                                                                                                                                                       | 0.78                                                                              |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                                                                                                                                                                                       | 120.0                                                                             |                                                                                   |                                                                                                                                                                                                                                                       | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 17.3                                                                                |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                                                                                                                                                                                       | 79.1%                                                                             |                                                                                   |                                                                                                                                                                                                                                                       | ICU Level of Service                                                              |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                                                                                                                                                                                       | 15                                                                                |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |



# HCM Unsignalized Intersection Capacity Analysis

## 5: Dixie Road & Abbotside Wy. /Spokane St

Existing AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (veh/h)            | 5                                                                                 | 0                                                                                 | 35                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 65                                                                                  | 295                                                                                 | 0                                                                                   | 0                                                                                   | 475                                                                                 | 10                                                                                  |
| Future Volume (Veh/h)             | 5                                                                                 | 0                                                                                 | 35                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 65                                                                                  | 295                                                                                 | 0                                                                                   | 0                                                                                   | 475                                                                                 | 10                                                                                  |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |                                                                                     |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Hourly flow rate (vph)            | 5                                                                                 | 0                                                                                 | 38                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 71                                                                                  | 321                                                                                 | 0                                                                                   | 0                                                                                   | 516                                                                                 | 11                                                                                  |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                                |                                                                                     |                                                                                     | None                                                                                |                                                                                     |                                                                                     |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 979                                                                               | 979                                                                               | 516                                                                               | 1017                                                                              | 990                                                                               | 321                                                                               | 527                                                                                 |                                                                                     |                                                                                     |                                                                                     | 321                                                                                 |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 979                                                                               | 979                                                                               | 516                                                                               | 1017                                                                              | 990                                                                               | 321                                                                               | 527                                                                                 |                                                                                     |                                                                                     |                                                                                     | 321                                                                                 |                                                                                     |
| tC, single (s)                    | 7.4                                                                               | 6.5                                                                               | 6.5                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.2                                                                                 |                                                                                     |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.8                                                                               | 4.0                                                                               | 3.5                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.3                                                                                 |                                                                                     |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |
| p0 queue free %                   | 97                                                                                | 100                                                                               | 93                                                                                | 100                                                                               | 100                                                                               | 100                                                                               | 93                                                                                  |                                                                                     |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |
| cM capacity (veh/h)               | 190                                                                               | 232                                                                               | 516                                                                               | 189                                                                               | 229                                                                               | 720                                                                               | 977                                                                                 |                                                                                     |                                                                                     |                                                                                     | 1239                                                                                |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              | SB 2                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 43                                                                                | 0                                                                                 | 71                                                                                | 321                                                                               | 516                                                                               | 11                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 5                                                                                 | 0                                                                                 | 71                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 38                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 11                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 430                                                                               | 1700                                                                              | 977                                                                               | 1700                                                                              | 1700                                                                              | 1700                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.10                                                                              | 0.00                                                                              | 0.07                                                                              | 0.19                                                                              | 0.30                                                                              | 0.01                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (m)             | 2.6                                                                               | 0.0                                                                               | 1.9                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 14.3                                                                              | 0.0                                                                               | 9.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | B                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 14.3                                                                              | 0.0                                                                               | 1.6                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | B                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   | 1.3                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 41.9%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 7: Dixie Road & UPS Facility Access/Construction Access

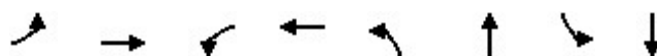
Existing AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)            | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                 | 200                                                                                 | 0                                                                                   | 0                                                                                   | 425                                                                                 | 15                                                                                  |
| Future Volume (Veh/h)             | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                 | 200                                                                                 | 0                                                                                   | 0                                                                                   | 425                                                                                 | 15                                                                                  |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Free                                                                               |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                 |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |                                                                                     |
| Peak Hour Factor                  | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                              | 0.93                                                                               | 0.93                                                                                | 0.93                                                                                | 0.93                                                                                | 0.93                                                                                | 0.93                                                                                |
| Hourly flow rate (vph)            | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 65                                                                                 | 215                                                                                 | 0                                                                                   | 0                                                                                   | 457                                                                                 | 16                                                                                  |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                               |                                                                                     |                                                                                     | None                                                                                |                                                                                     |                                                                                     |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 810                                                                               | 810                                                                               | 465                                                                               | 815                                                                               | 818                                                                               | 215                                                                               | 473                                                                                |                                                                                     |                                                                                     |                                                                                     | 215                                                                                 |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 810                                                                               | 810                                                                               | 465                                                                               | 815                                                                               | 818                                                                               | 215                                                                               | 473                                                                                |                                                                                     |                                                                                     |                                                                                     | 215                                                                                 |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.5                                                                               | 6.8                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.1                                                                                |                                                                                     |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.0                                                                               | 3.8                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.2                                                                                |                                                                                     |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |
| p0 queue free %                   | 100                                                                               | 100                                                                               | 99                                                                                | 100                                                                               | 100                                                                               | 100                                                                               | 94                                                                                 |                                                                                     |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |
| cM capacity (veh/h)               | 287                                                                               | 295                                                                               | 494                                                                               | 280                                                                               | 292                                                                               | 825                                                                               | 1073                                                                               |                                                                                     |                                                                                     |                                                                                     | 1355                                                                                |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | EB 2                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 0                                                                                 | 5                                                                                 | 0                                                                                 | 280                                                                               | 473                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 65                                                                                | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 16                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 1700                                                                              | 494                                                                               | 1700                                                                              | 1073                                                                              | 1700                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.00                                                                              | 0.01                                                                              | 0.00                                                                              | 0.06                                                                              | 0.28                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (m)             | 0.0                                                                               | 0.2                                                                               | 0.0                                                                               | 1.5                                                                               | 0.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 0.0                                                                               | 12.4                                                                              | 0.0                                                                               | 2.4                                                                               | 0.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | A                                                                                 | B                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 12.4                                                                              |                                                                                   | 0.0                                                                               | 2.4                                                                               | 0.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | B                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   |                                                                                   | 1.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 43.8%                                                                             | ICU Level of Service                                                              |                                                                                   |                                                                                    |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Queues

## 12: Dixie Road

Existing AM Peak Hour



| Lane Group             | EBL   | EBT   | WBL   | WBT   | NBL   | NBT    | SBL   | SBT   |
|------------------------|-------|-------|-------|-------|-------|--------|-------|-------|
| Lane Configurations    |       |       |       |       |       |        |       |       |
| Traffic Volume (vph)   | 40    | 310   | 30    | 130   | 10    | 145    | 20    | 345   |
| Future Volume (vph)    | 40    | 310   | 30    | 130   | 10    | 145    | 20    | 345   |
| Lane Group Flow (vph)  | 45    | 392   | 34    | 159   | 11    | 188    | 23    | 460   |
| Turn Type              | Perm  | NA    | Perm  | NA    | Perm  | NA     | Perm  | NA    |
| Protected Phases       |       | 4     |       | 8     |       | 2      |       | 6     |
| Permitted Phases       | 4     |       | 8     |       | 2     |        | 6     |       |
| Detector Phase         | 4     | 4     | 8     | 8     | 2     | 2      | 6     | 6     |
| Switch Phase           |       |       |       |       |       |        |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0    | 5.0   | 5.0   |
| Minimum Split (s)      | 24.5  | 24.5  | 24.5  | 24.5  | 24.5  | 24.5   | 24.5  | 24.5  |
| Total Split (s)        | 30.0  | 30.0  | 30.0  | 30.0  | 40.0  | 40.0   | 40.0  | 40.0  |
| Total Split (%)        | 42.9% | 42.9% | 42.9% | 42.9% | 57.1% | 57.1%  | 57.1% | 57.1% |
| Yellow Time (s)        | 4.0   | 4.0   | 4.0   | 4.0   | 4.5   | 4.5    | 4.5   | 4.5   |
| All-Red Time (s)       | 2.5   | 2.5   | 2.5   | 2.5   | 2.0   | 2.0    | 2.0   | 2.0   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5   | 6.5   | 6.5   | 6.5    | 6.5   | 6.5   |
| Lead/Lag               |       |       |       |       |       |        |       |       |
| Lead-Lag Optimize?     |       |       |       |       |       |        |       |       |
| Recall Mode            | None  | None  | None  | None  | C-Min | C-Min  | C-Min | C-Min |
| v/c Ratio              | 0.13  | 0.76  | 0.19  | 0.32  | 0.03  | 0.21   | 0.04  | 0.49  |
| Control Delay          | 17.8  | 31.7  | 19.9  | 19.6  | 10.3  | 10.0   | 10.1  | 13.4  |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   |
| Total Delay            | 17.8  | 31.7  | 19.9  | 19.6  | 10.3  | 10.0   | 10.1  | 13.4  |
| Queue Length 50th (m)  | 4.6   | 47.8  | 3.5   | 16.4  | 0.7   | 11.6   | 1.4   | 35.7  |
| Queue Length 95th (m)  | 10.4  | 66.9  | 9.2   | 27.0  | 3.4   | 25.6   | 5.4   | 67.9  |
| Internal Link Dist (m) |       | 118.0 |       | 135.5 |       | 2407.1 |       | 261.5 |
| Turn Bay Length (m)    | 65.0  |       | 65.0  |       | 65.0  |        | 65.0  |       |
| Base Capacity (vph)    | 404   | 625   | 212   | 601   | 382   | 899    | 593   | 946   |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0     | 0      | 0     | 0     |
| Reduced v/c Ratio      | 0.11  | 0.63  | 0.16  | 0.26  | 0.03  | 0.21   | 0.04  | 0.49  |

## Intersection Summary

Cycle Length: 70

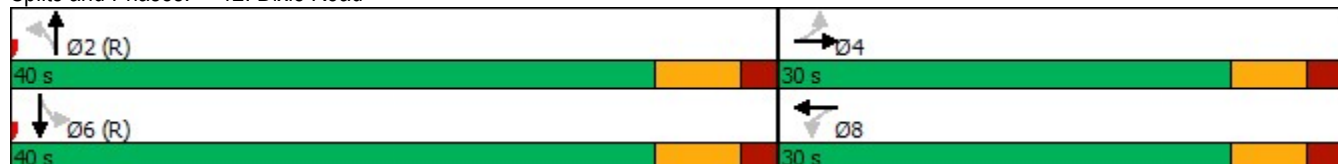
Actuated Cycle Length: 70

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Splits and Phases: 12: Dixie Road



# HCM Signalized Intersection Capacity Analysis

## 12: Dixie Road

Existing AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)              | 40                                                                                | 310                                                                               | 35                                                                                | 30                                                                                | 130                                                                               | 10                                                                                | 10                                                                                  | 145                                                                                 | 20                                                                                  | 20                                                                                  | 345                                                                                 | 60                                                                                  |
| Future Volume (vph)               | 40                                                                                | 310                                                                               | 35                                                                                | 30                                                                                | 130                                                                               | 10                                                                                | 10                                                                                  | 145                                                                                 | 20                                                                                  | 20                                                                                  | 345                                                                                 | 60                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     |
| Frt                               | 1.00                                                                              | 0.98                                                                              |                                                                                   | 1.00                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                                | 0.98                                                                                |                                                                                     | 1.00                                                                                | 0.98                                                                                |                                                                                     |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     | 0.95                                                                                | 1.00                                                                                |                                                                                     |
| Satd. Flow (prot)                 | 1719                                                                              | 1819                                                                              |                                                                                   | 1805                                                                              | 1754                                                                              |                                                                                   | 1556                                                                                | 1660                                                                                |                                                                                     | 1641                                                                                | 1746                                                                                |                                                                                     |
| Flt Permitted                     | 0.66                                                                              | 1.00                                                                              |                                                                                   | 0.33                                                                              | 1.00                                                                              |                                                                                   | 0.44                                                                                | 1.00                                                                                |                                                                                     | 0.64                                                                                | 1.00                                                                                |                                                                                     |
| Satd. Flow (perm)                 | 1187                                                                              | 1819                                                                              |                                                                                   | 624                                                                               | 1754                                                                              |                                                                                   | 713                                                                                 | 1660                                                                                |                                                                                     | 1104                                                                                | 1746                                                                                |                                                                                     |
| Peak-hour factor, PHF             | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                              | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                | 0.88                                                                                |
| Adj. Flow (vph)                   | 45                                                                                | 352                                                                               | 40                                                                                | 34                                                                                | 148                                                                               | 11                                                                                | 11                                                                                  | 165                                                                                 | 23                                                                                  | 23                                                                                  | 392                                                                                 | 68                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 6                                                                                 | 0                                                                                 | 0                                                                                 | 4                                                                                 | 0                                                                                 | 0                                                                                   | 7                                                                                   | 0                                                                                   | 0                                                                                   | 8                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 45                                                                                | 386                                                                               | 0                                                                                 | 34                                                                                | 155                                                                               | 0                                                                                 | 11                                                                                  | 181                                                                                 | 0                                                                                   | 23                                                                                  | 452                                                                                 | 0                                                                                   |
| Heavy Vehicles (%)                | 5%                                                                                | 1%                                                                                | 19%                                                                               | 0%                                                                                | 7%                                                                                | 10%                                                                               | 16%                                                                                 | 12%                                                                                 | 15%                                                                                 | 10%                                                                                 | 7%                                                                                  | 3%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 19.7                                                                              | 19.7                                                                              |                                                                                   | 19.7                                                                              | 19.7                                                                              |                                                                                   | 37.3                                                                                | 37.3                                                                                |                                                                                     | 37.3                                                                                | 37.3                                                                                |                                                                                     |
| Effective Green, g (s)            | 19.7                                                                              | 19.7                                                                              |                                                                                   | 19.7                                                                              | 19.7                                                                              |                                                                                   | 37.3                                                                                | 37.3                                                                                |                                                                                     | 37.3                                                                                | 37.3                                                                                |                                                                                     |
| Actuated g/C Ratio                | 0.28                                                                              | 0.28                                                                              |                                                                                   | 0.28                                                                              | 0.28                                                                              |                                                                                   | 0.53                                                                                | 0.53                                                                                |                                                                                     | 0.53                                                                                | 0.53                                                                                |                                                                                     |
| Clearance Time (s)                | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 334                                                                               | 511                                                                               |                                                                                   | 175                                                                               | 493                                                                               |                                                                                   | 379                                                                                 | 884                                                                                 |                                                                                     | 588                                                                                 | 930                                                                                 |                                                                                     |
| v/s Ratio Prot                    |                                                                                   | c0.21                                                                             |                                                                                   |                                                                                   | 0.09                                                                              |                                                                                   |                                                                                     | 0.11                                                                                |                                                                                     |                                                                                     | c0.26                                                                               |                                                                                     |
| v/s Ratio Perm                    | 0.04                                                                              |                                                                                   |                                                                                   | 0.05                                                                              |                                                                                   |                                                                                   | 0.02                                                                                |                                                                                     |                                                                                     | 0.02                                                                                |                                                                                     |                                                                                     |
| v/c Ratio                         | 0.13                                                                              | 0.75                                                                              |                                                                                   | 0.19                                                                              | 0.31                                                                              |                                                                                   | 0.03                                                                                | 0.21                                                                                |                                                                                     | 0.04                                                                                | 0.49                                                                                |                                                                                     |
| Uniform Delay, d1                 | 18.8                                                                              | 22.9                                                                              |                                                                                   | 19.1                                                                              | 19.8                                                                              |                                                                                   | 7.8                                                                                 | 8.6                                                                                 |                                                                                     | 7.8                                                                                 | 10.3                                                                                |                                                                                     |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     |
| Incremental Delay, d2             | 0.2                                                                               | 6.2                                                                               |                                                                                   | 0.5                                                                               | 0.4                                                                               |                                                                                   | 0.1                                                                                 | 0.5                                                                                 |                                                                                     | 0.1                                                                                 | 1.8                                                                                 |                                                                                     |
| Delay (s)                         | 19.0                                                                              | 29.2                                                                              |                                                                                   | 19.7                                                                              | 20.2                                                                              |                                                                                   | 7.9                                                                                 | 9.1                                                                                 |                                                                                     | 7.9                                                                                 | 12.1                                                                                |                                                                                     |
| Level of Service                  | B                                                                                 | C                                                                                 |                                                                                   | B                                                                                 | C                                                                                 |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     | A                                                                                   | B                                                                                   |                                                                                     |
| Approach Delay (s)                |                                                                                   | 28.1                                                                              |                                                                                   |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                     | 9.0                                                                                 |                                                                                     |                                                                                     | 11.9                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 18.1                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.58                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 70.0                                                                              |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 13.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 60.7%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 15: Bramalea Road & Old School Road

Existing AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 5                                                                                 | 250                                                                               | 85                                                                                | 25                                                                                | 105                                                                               | 0                                                                                 | 40                                                                                 | 70                                                                                  | 20                                                                                  | 5                                                                                   | 140                                                                                 | 30                                                                                  |
| Future Volume (vph)               | 5                                                                                 | 250                                                                               | 85                                                                                | 25                                                                                | 105                                                                               | 0                                                                                 | 40                                                                                 | 70                                                                                  | 20                                                                                  | 5                                                                                   | 140                                                                                 | 30                                                                                  |
| Peak Hour Factor                  | 0.74                                                                              | 0.74                                                                              | 0.74                                                                              | 0.74                                                                              | 0.74                                                                              | 0.74                                                                              | 0.74                                                                               | 0.74                                                                                | 0.74                                                                                | 0.74                                                                                | 0.74                                                                                | 0.74                                                                                |
| Hourly flow rate (vph)            | 7                                                                                 | 338                                                                               | 115                                                                               | 34                                                                                | 142                                                                               | 0                                                                                 | 54                                                                                 | 95                                                                                  | 27                                                                                  | 7                                                                                   | 189                                                                                 | 41                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 460                                                                               | 176                                                                               | 176                                                                               | 237                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 7                                                                                 | 34                                                                                | 54                                                                                | 7                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 115                                                                               | 0                                                                                 | 27                                                                                | 41                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | -0.15                                                                             | 0.04                                                                              | -0.03                                                                             | -0.10                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 5.4                                                                               | 6.0                                                                               | 6.2                                                                               | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.69                                                                              | 0.30                                                                              | 0.30                                                                              | 0.39                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 642                                                                               | 522                                                                               | 506                                                                               | 540                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 19.2                                                                              | 11.5                                                                              | 11.8                                                                              | 12.8                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 19.2                                                                              | 11.5                                                                              | 11.8                                                                              | 12.8                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   |                                                                                   | 15.3                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 47.8%                                                                             | ICU Level of Service                                                              | A                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Queues

## 1: Dixie Road & Mayfield Road

Existing PM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |   |  |  |  |  |
| Traffic Volume (vph)   | 245                                                                               | 1205                                                                              | 180                                                                               | 50                                                                                | 1175                                                                              | 210                                                                               | 190                                                                                 | 60                                                                                  | 50                                                                                  | 100                                                                                 | 295                                                                                 |
| Future Volume (vph)    | 245                                                                               | 1205                                                                              | 180                                                                               | 50                                                                                | 1175                                                                              | 210                                                                               | 190                                                                                 | 60                                                                                  | 50                                                                                  | 100                                                                                 | 295                                                                                 |
| Lane Group Flow (vph)  | 253                                                                               | 1242                                                                              | 186                                                                               | 52                                                                                | 1252                                                                              | 216                                                                               | 196                                                                                 | 62                                                                                  | 52                                                                                  | 103                                                                                 | 304                                                                                 |
| Turn Type              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                   |                                                                                     |
| Permitted Phases       | 2                                                                                 |                                                                                   | 2                                                                                 | 6                                                                                 |                                                                                   | 4                                                                                 |                                                                                     | 4                                                                                   | 8                                                                                   |                                                                                     | 8                                                                                   |
| Detector Phase         | 5                                                                                 | 2                                                                                 | 2                                                                                 | 1                                                                                 | 6                                                                                 | 4                                                                                 | 4                                                                                   | 4                                                                                   | 8                                                                                   | 8                                                                                   | 8                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 8.0                                                                               | 8.0                                                                               | 5.0                                                                               | 8.0                                                                               | 8.0                                                                               | 8.0                                                                                 | 8.0                                                                                 | 8.0                                                                                 | 8.0                                                                                 | 8.0                                                                                 |
| Minimum Split (s)      | 9.5                                                                               | 44.9                                                                              | 44.9                                                                              | 9.5                                                                               | 44.9                                                                              | 47.9                                                                              | 47.9                                                                                | 47.9                                                                                | 47.9                                                                                | 47.9                                                                                | 47.9                                                                                |
| Total Split (s)        | 10.0                                                                              | 60.0                                                                              | 60.0                                                                              | 10.0                                                                              | 60.0                                                                              | 50.0                                                                              | 50.0                                                                                | 50.0                                                                                | 50.0                                                                                | 50.0                                                                                | 50.0                                                                                |
| Total Split (%)        | 8.3%                                                                              | 50.0%                                                                             | 50.0%                                                                             | 8.3%                                                                              | 50.0%                                                                             | 41.7%                                                                             | 41.7%                                                                               | 41.7%                                                                               | 41.7%                                                                               | 41.7%                                                                               | 41.7%                                                                               |
| Yellow Time (s)        | 3.0                                                                               | 4.6                                                                               | 4.6                                                                               | 3.5                                                                               | 4.6                                                                               | 4.6                                                                               | 4.6                                                                                 | 4.6                                                                                 | 4.6                                                                                 | 4.6                                                                                 | 4.6                                                                                 |
| All-Red Time (s)       | 0.0                                                                               | 2.3                                                                               | 2.3                                                                               | 0.0                                                                               | 2.3                                                                               | 2.3                                                                               | 2.3                                                                                 | 2.3                                                                                 | 2.3                                                                                 | 2.3                                                                                 | 2.3                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 3.0                                                                               | 6.9                                                                               | 6.9                                                                               | 3.5                                                                               | 6.9                                                                               | 6.9                                                                               | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 |
| Lead/Lag               | Lead                                                                              | Lag                                                                               | Lag                                                                               | Lead                                                                              | Lag                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | C-Min                                                                             | C-Min                                                                             | None                                                                              | C-Min                                                                             | None                                                                              | None                                                                                | None                                                                                | None                                                                                | None                                                                                | None                                                                                |
| v/c Ratio              | 0.59                                                                              | 0.45                                                                              | 0.20                                                                              | 0.19                                                                              | 0.60                                                                              | 0.78                                                                              | 0.47                                                                                | 0.19                                                                                | 0.31                                                                                | 0.26                                                                                | 0.74                                                                                |
| Control Delay          | 21.8                                                                              | 15.8                                                                              | 2.8                                                                               | 10.7                                                                              | 27.9                                                                              | 62.5                                                                              | 42.9                                                                                | 8.0                                                                                 | 41.1                                                                                | 38.2                                                                                | 33.0                                                                                |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 21.8                                                                              | 15.8                                                                              | 2.8                                                                               | 10.7                                                                              | 27.9                                                                              | 62.5                                                                              | 42.9                                                                                | 8.0                                                                                 | 41.1                                                                                | 38.2                                                                                | 33.0                                                                                |
| Queue Length 50th (m)  | 25.9                                                                              | 61.0                                                                              | 0.0                                                                               | 3.7                                                                               | 80.1                                                                              | 50.8                                                                              | 42.5                                                                                | 0.0                                                                                 | 10.9                                                                                | 21.3                                                                                | 38.0                                                                                |
| Queue Length 95th (m)  | 62.3                                                                              | 92.1                                                                              | 12.3                                                                              | 10.2                                                                              | 111.6                                                                             | 71.6                                                                              | 58.7                                                                                | 9.5                                                                                 | 20.9                                                                                | 33.3                                                                                | 64.6                                                                                |
| Internal Link Dist (m) |                                                                                   | 980.1                                                                             |                                                                                   |                                                                                   | 554.7                                                                             |                                                                                   | 844.0                                                                               |                                                                                     |                                                                                     | 481.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 155.0                                                                             |                                                                                   | 115.0                                                                             | 150.0                                                                             |                                                                                   | 140.0                                                                             |                                                                                     | 65.0                                                                                | 100.0                                                                               |                                                                                     | 170.0                                                                               |
| Base Capacity (vph)    | 426                                                                               | 2783                                                                              | 939                                                                               | 285                                                                               | 2198                                                                              | 450                                                                               | 683                                                                                 | 505                                                                                 | 277                                                                                 | 638                                                                                 | 577                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.59                                                                              | 0.45                                                                              | 0.20                                                                              | 0.18                                                                              | 0.57                                                                              | 0.48                                                                              | 0.29                                                                                | 0.12                                                                                | 0.19                                                                                | 0.16                                                                                | 0.53                                                                                |

### Intersection Summary

Cycle Length: 120

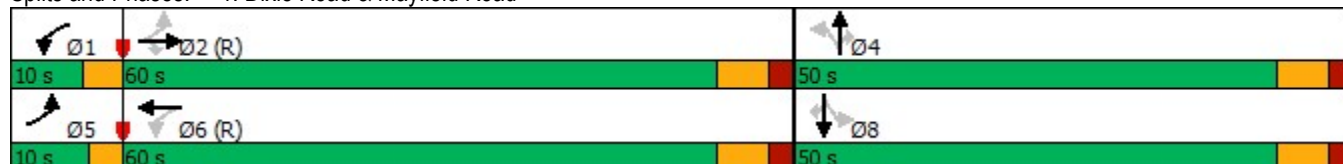
Actuated Cycle Length: 120

Offset: 9.5 (8%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

### Splits and Phases: 1: Dixie Road & Mayfield Road



# HCM Signalized Intersection Capacity Analysis

## 1: Dixie Road & Mayfield Road

Existing PM Peak Hour

|                                   |  |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |   |  |  |  |                                                                                      |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                                                                                                     | SBR                                                                                 |
| Lane Configurations               |  |    |  |  |    |                                                                                   |  |  |  |  |   |  |
| Traffic Volume (vph)              | 245                                                                               | 1205                                                                                                                                                                                                                                                  | 180                                                                               | 50                                                                                | 1175                                                                                                                                                                                                                                                  | 40                                                                                | 210                                                                                 | 190                                                                                 | 60                                                                                  | 50                                                                                  | 100                                                                                                                                                                     | 295                                                                                 |
| Future Volume (vph)               | 245                                                                               | 1205                                                                                                                                                                                                                                                  | 180                                                                               | 50                                                                                | 1175                                                                                                                                                                                                                                                  | 40                                                                                | 210                                                                                 | 190                                                                                 | 60                                                                                  | 50                                                                                  | 100                                                                                                                                                                     | 295                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                                                                                                                                                                                                  | 1900                                                                              | 1900                                                                              | 1900                                                                                                                                                                                                                                                  | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                                                                                                    | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                                                                                                                                                                                                   | 3.5                                                                               | 3.5                                                                               | 3.7                                                                                                                                                                                                                                                   | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                                                                                                     | 3.5                                                                                 |
| Total Lost time (s)               | 3.0                                                                               | 6.9                                                                                                                                                                                                                                                   | 6.9                                                                               | 3.5                                                                               | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                                                                                                     | 6.9                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 0.91                                                                                                                                                                                                                                                  | 1.00                                                                              | 1.00                                                                              | 0.91                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  | 0.96                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                | 1.00                                                                                | 1.00                                                                                                                                                                    | 0.98                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  | 0.85                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                                                                                                    | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                                                                                                                                                                                                  | 1.00                                                                              | 0.95                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Satd. Flow (prot)                 | 1539                                                                              | 4683                                                                                                                                                                                                                                                  | 1453                                                                              | 1766                                                                              | 4861                                                                                                                                                                                                                                                  |                                                                                   | 1726                                                                                | 1902                                                                                | 1288                                                                                | 1401                                                                                | 1779                                                                                                                                                                    | 1354                                                                                |
| Flt Permitted                     | 0.14                                                                              | 1.00                                                                                                                                                                                                                                                  | 1.00                                                                              | 0.21                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 0.69                                                                                | 1.00                                                                                | 1.00                                                                                | 0.53                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Satd. Flow (perm)                 | 221                                                                               | 4683                                                                                                                                                                                                                                                  | 1453                                                                              | 396                                                                               | 4861                                                                                                                                                                                                                                                  |                                                                                   | 1255                                                                                | 1902                                                                                | 1288                                                                                | 775                                                                                 | 1779                                                                                                                                                                    | 1354                                                                                |
| Peak-hour factor, PHF             | 0.97                                                                              | 0.97                                                                                                                                                                                                                                                  | 0.97                                                                              | 0.97                                                                              | 0.97                                                                                                                                                                                                                                                  | 0.97                                                                              | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                | 0.97                                                                                                                                                                    | 0.97                                                                                |
| Adj. Flow (vph)                   | 253                                                                               | 1242                                                                                                                                                                                                                                                  | 186                                                                               | 52                                                                                | 1211                                                                                                                                                                                                                                                  | 41                                                                                | 216                                                                                 | 196                                                                                 | 62                                                                                  | 52                                                                                  | 103                                                                                                                                                                     | 304                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 76                                                                                | 0                                                                                 | 3                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                   | 48                                                                                  | 0                                                                                   | 0                                                                                                                                                                       | 112                                                                                 |
| Lane Group Flow (vph)             | 253                                                                               | 1242                                                                                                                                                                                                                                                  | 110                                                                               | 52                                                                                | 1249                                                                                                                                                                                                                                                  | 0                                                                                 | 216                                                                                 | 196                                                                                 | 14                                                                                  | 52                                                                                  | 103                                                                                                                                                                     | 192                                                                                 |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                                                                                                                                                                                       | 10                                                                                | 10                                                                                |                                                                                                                                                                                                                                                       |                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                                                                                                         | 5                                                                                   |
| Heavy Vehicles (%)                | 16%                                                                               | 12%                                                                                                                                                                                                                                                   | 6%                                                                                | 1%                                                                                | 7%                                                                                                                                                                                                                                                    | 18%                                                                               | 3%                                                                                  | 1%                                                                                  | 22%                                                                                 | 27%                                                                                 | 8%                                                                                                                                                                      | 16%                                                                                 |
| Turn Type                         | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | Perm                                                                              | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                                                                                                      | Perm                                                                                |
| Protected Phases                  | 5                                                                                 | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | 4                                                                                   |                                                                                     |                                                                                     | 8                                                                                                                                                                       |                                                                                     |
| Permitted Phases                  | 2                                                                                 |                                                                                                                                                                                                                                                       | 2                                                                                 | 6                                                                                 |                                                                                                                                                                                                                                                       |                                                                                   | 4                                                                                   |                                                                                     | 4                                                                                   | 8                                                                                   |                                                                                                                                                                         | 8                                                                                   |
| Actuated Green, G (s)             | 79.8                                                                              | 70.7                                                                                                                                                                                                                                                  | 70.7                                                                              | 57.5                                                                              | 51.9                                                                                                                                                                                                                                                  |                                                                                   | 26.4                                                                                | 26.4                                                                                | 26.4                                                                                | 26.4                                                                                | 26.4                                                                                                                                                                    | 26.4                                                                                |
| Effective Green, g (s)            | 79.8                                                                              | 70.7                                                                                                                                                                                                                                                  | 70.7                                                                              | 57.5                                                                              | 51.9                                                                                                                                                                                                                                                  |                                                                                   | 26.4                                                                                | 26.4                                                                                | 26.4                                                                                | 26.4                                                                                | 26.4                                                                                                                                                                    | 26.4                                                                                |
| Actuated g/C Ratio                | 0.66                                                                              | 0.59                                                                                                                                                                                                                                                  | 0.59                                                                              | 0.48                                                                              | 0.43                                                                                                                                                                                                                                                  |                                                                                   | 0.22                                                                                | 0.22                                                                                | 0.22                                                                                | 0.22                                                                                | 0.22                                                                                                                                                                    | 0.22                                                                                |
| Clearance Time (s)                | 3.0                                                                               | 6.9                                                                                                                                                                                                                                                   | 6.9                                                                               | 3.5                                                                               | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                 | 6.9                                                                                                                                                                     | 6.9                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                                                                                                                                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                                                                                                                                                                                   |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                                                                                                     | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 420                                                                               | 2759                                                                                                                                                                                                                                                  | 856                                                                               | 253                                                                               | 2102                                                                                                                                                                                                                                                  |                                                                                   | 276                                                                                 | 418                                                                                 | 283                                                                                 | 170                                                                                 | 391                                                                                                                                                                     | 297                                                                                 |
| v/s Ratio Prot                    | c0.12                                                                             | 0.27                                                                                                                                                                                                                                                  |                                                                                   | 0.01                                                                              | 0.26                                                                                                                                                                                                                                                  |                                                                                   |                                                                                     | 0.10                                                                                |                                                                                     |                                                                                     | 0.06                                                                                                                                                                    |                                                                                     |
| v/s Ratio Perm                    | c0.28                                                                             |                                                                                                                                                                                                                                                       | 0.08                                                                              | 0.09                                                                              |                                                                                                                                                                                                                                                       |                                                                                   | c0.17                                                                               |                                                                                     | 0.01                                                                                | 0.07                                                                                |                                                                                                                                                                         | 0.14                                                                                |
| v/c Ratio                         | 0.60                                                                              | 0.45                                                                                                                                                                                                                                                  | 0.13                                                                              | 0.21                                                                              | 0.59                                                                                                                                                                                                                                                  |                                                                                   | 0.78                                                                                | 0.47                                                                                | 0.05                                                                                | 0.31                                                                                | 0.26                                                                                                                                                                    | 0.65                                                                                |
| Uniform Delay, d1                 | 16.4                                                                              | 13.8                                                                                                                                                                                                                                                  | 11.0                                                                              | 16.8                                                                              | 26.0                                                                                                                                                                                                                                                  |                                                                                   | 44.1                                                                                | 40.7                                                                                | 36.9                                                                                | 39.1                                                                                | 38.7                                                                                                                                                                    | 42.6                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                                                                                                  |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                                                                                                    | 1.00                                                                                |
| Incremental Delay, d2             | 2.4                                                                               | 0.5                                                                                                                                                                                                                                                   | 0.3                                                                               | 0.4                                                                               | 1.2                                                                                                                                                                                                                                                   |                                                                                   | 13.5                                                                                | 0.8                                                                                 | 0.1                                                                                 | 1.0                                                                                 | 0.4                                                                                                                                                                     | 4.8                                                                                 |
| Delay (s)                         | 18.8                                                                              | 14.3                                                                                                                                                                                                                                                  | 11.3                                                                              | 17.2                                                                              | 27.3                                                                                                                                                                                                                                                  |                                                                                   | 57.6                                                                                | 41.5                                                                                | 37.0                                                                                | 40.2                                                                                | 39.1                                                                                                                                                                    | 47.4                                                                                |
| Level of Service                  | B                                                                                 | B                                                                                                                                                                                                                                                     | B                                                                                 | B                                                                                 | C                                                                                                                                                                                                                                                     |                                                                                   | E                                                                                   | D                                                                                   | D                                                                                   | D                                                                                   | D                                                                                                                                                                       | D                                                                                   |
| Approach Delay (s)                |                                                                                   | 14.7                                                                                                                                                                                                                                                  |                                                                                   |                                                                                   | 26.9                                                                                                                                                                                                                                                  |                                                                                   |                                                                                     | 48.2                                                                                |                                                                                     |                                                                                     | 44.7                                                                                                                                                                    |                                                                                     |
| Approach LOS                      |                                                                                   | B                                                                                                                                                                                                                                                     |                                                                                   |                                                                                   | C                                                                                                                                                                                                                                                     |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | D                                                                                                                                                                       |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                                                                                                                                                                                       | 26.3                                                                              |                                                                                   |                                                                                                                                                                                                                                                       | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                                                                                                                                                                                       | 0.67                                                                              |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                                                                                                                                                                                       | 120.0                                                                             |                                                                                   |                                                                                                                                                                                                                                                       | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 17.3                                                                                |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                                                                                                                                                                                       | 80.3%                                                                             |                                                                                   |                                                                                                                                                                                                                                                       | ICU Level of Service                                                              |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                                                                                                                                                                                       | 15                                                                                |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 5: Dixie Road & Abbotside Wy. /Spokane St

Existing PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |  |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (veh/h)            | 10                                                                                | 0                                                                                 | 50                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 15                                                                                  | 435                                                                                 | 0                                                                                   | 0                                                                                   | 380                                                                                 | 0                                                                                   |
| Future Volume (Veh/h)             | 10                                                                                | 0                                                                                 | 50                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 15                                                                                  | 435                                                                                 | 0                                                                                   | 0                                                                                   | 380                                                                                 | 0                                                                                   |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Free                                                                                |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                  |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |                                                                                     |
| Peak Hour Factor                  | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                              | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                | 0.92                                                                                |
| Hourly flow rate (vph)            | 11                                                                                | 0                                                                                 | 54                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 16                                                                                  | 473                                                                                 | 0                                                                                   | 0                                                                                   | 413                                                                                 | 0                                                                                   |
| Pedestrians                       | 5                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (m)                    | 3.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (m/s)               | 1.2                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       | None                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 923                                                                               | 923                                                                               | 418                                                                               | 972                                                                               | 923                                                                               | 473                                                                               | 418                                                                                 |                                                                                     |                                                                                     | 473                                                                                 |                                                                                     |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 923                                                                               | 923                                                                               | 418                                                                               | 972                                                                               | 923                                                                               | 473                                                                               | 418                                                                                 |                                                                                     |                                                                                     | 473                                                                                 |                                                                                     |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.5                                                                               | 6.3                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.5                                                                                 |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.0                                                                               | 3.4                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.5                                                                                 |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     |
| p0 queue free %                   | 96                                                                                | 100                                                                               | 91                                                                                | 100                                                                               | 100                                                                               | 100                                                                               | 98                                                                                  |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |                                                                                     |
| cM capacity (veh/h)               | 247                                                                               | 264                                                                               | 611                                                                               | 208                                                                               | 264                                                                               | 591                                                                               | 968                                                                                 |                                                                                     |                                                                                     | 1089                                                                                |                                                                                     |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              | SB 2                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 65                                                                                | 0                                                                                 | 16                                                                                | 473                                                                               | 413                                                                               | 0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 11                                                                                | 0                                                                                 | 16                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 54                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 490                                                                               | 1700                                                                              | 968                                                                               | 1700                                                                              | 1700                                                                              | 1700                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.13                                                                              | 0.00                                                                              | 0.02                                                                              | 0.28                                                                              | 0.24                                                                              | 0.01                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (m)             | 3.6                                                                               | 0.0                                                                               | 0.4                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 13.5                                                                              | 0.0                                                                               | 8.8                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | B                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 13.5                                                                              | 0.0                                                                               | 0.3                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | B                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     | 1.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization | 33.2%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# HCM Unsignalized Intersection Capacity Analysis

## 7: Dixie Road & UPS Facility Access/Construction Access

Existing PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |                                                                                   |  |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (veh/h)            | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 35                                                                                 | 385                                                                                 | 0                                                                                   | 0                                                                                   | 400                                                                                 | 20                                                                                  |
| Future Volume (Veh/h)             | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 35                                                                                 | 385                                                                                 | 0                                                                                   | 0                                                                                   | 400                                                                                 | 20                                                                                  |
| Sign Control                      | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Free                                                                               |                                                                                     |                                                                                     | Free                                                                                |                                                                                     |                                                                                     |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                 |                                                                                     |                                                                                     | 0%                                                                                  |                                                                                     |                                                                                     |
| Peak Hour Factor                  | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                              | 0.94                                                                               | 0.94                                                                                | 0.94                                                                                | 0.94                                                                                | 0.94                                                                                | 0.94                                                                                |
| Hourly flow rate (vph)            | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 37                                                                                 | 410                                                                                 | 0                                                                                   | 0                                                                                   | 426                                                                                 | 21                                                                                  |
| Pedestrians                       | 10                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane Width (m)                    | 3.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Walking Speed (m/s)               | 1.2                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Percent Blockage                  | 1                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Median type                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | None                                                                               |                                                                                     |                                                                                     | None                                                                                |                                                                                     |                                                                                     |
| Median storage (veh)              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC, conflicting volume            | 930                                                                               | 930                                                                               | 446                                                                               | 920                                                                               | 941                                                                               | 410                                                                               | 457                                                                                |                                                                                     |                                                                                     |                                                                                     | 410                                                                                 |                                                                                     |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| vCu, unblocked vol                | 930                                                                               | 930                                                                               | 446                                                                               | 920                                                                               | 941                                                                               | 410                                                                               | 457                                                                                |                                                                                     |                                                                                     |                                                                                     | 410                                                                                 |                                                                                     |
| tC, single (s)                    | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 7.1                                                                               | 6.5                                                                               | 6.2                                                                               | 4.1                                                                                |                                                                                     |                                                                                     |                                                                                     | 4.1                                                                                 |                                                                                     |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| tF (s)                            | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 3.5                                                                               | 4.0                                                                               | 3.3                                                                               | 2.2                                                                                |                                                                                     |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |
| p0 queue free %                   | 98                                                                                | 100                                                                               | 100                                                                               | 100                                                                               | 100                                                                               | 100                                                                               | 97                                                                                 |                                                                                     |                                                                                     |                                                                                     | 100                                                                                 |                                                                                     |
| cM capacity (veh/h)               | 239                                                                               | 256                                                                               | 611                                                                               | 243                                                                               | 252                                                                               | 642                                                                               | 1095                                                                               |                                                                                     |                                                                                     |                                                                                     | 1149                                                                                |                                                                                     |
| Direction, Lane #                 | EB 1                                                                              | EB 2                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total                      | 5                                                                                 | 0                                                                                 | 0                                                                                 | 447                                                                               | 447                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left                       | 5                                                                                 | 0                                                                                 | 0                                                                                 | 37                                                                                | 0                                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right                      | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 21                                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| cSH                               | 239                                                                               | 1700                                                                              | 1700                                                                              | 1095                                                                              | 1700                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume to Capacity                | 0.02                                                                              | 0.01                                                                              | 0.00                                                                              | 0.03                                                                              | 0.26                                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Queue Length 95th (m)             | 0.5                                                                               | 0.0                                                                               | 0.0                                                                               | 0.8                                                                               | 0.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 20.4                                                                              | 0.0                                                                               | 0.0                                                                               | 1.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lane LOS                          | C                                                                                 | A                                                                                 | A                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 20.4                                                                              |                                                                                   | 0.0                                                                               | 1.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Average Delay                     |                                                                                   |                                                                                   |                                                                                   | 0.6                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 57.8%                                                                             | ICU Level of Service                                                              |                                                                                   |                                                                                    |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Queues

## 12: Dixie Road

Existing PM Peak Hour

|                        |  |  |  |  |  |  |   |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                               | SBL                                                                                 | SBT                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 30                                                                                | 135                                                                               | 50                                                                                | 320                                                                               | 25                                                                                | 330                                                                               | 5                                                                                   | 260                                                                                 |
| Future Volume (vph)    | 30                                                                                | 135                                                                               | 50                                                                                | 320                                                                               | 25                                                                                | 330                                                                               | 5                                                                                   | 260                                                                                 |
| Lane Group Flow (vph)  | 32                                                                                | 163                                                                               | 53                                                                                | 353                                                                               | 26                                                                                | 379                                                                               | 5                                                                                   | 306                                                                                 |
| Turn Type              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                                | NA                                                                                  |
| Protected Phases       |                                                                                   | 4                                                                                 |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     | 6                                                                                   |
| Permitted Phases       | 4                                                                                 |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                   | 6                                                                                   |                                                                                     |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                 | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 24.5                                                                              | 24.5                                                                              | 24.5                                                                              | 24.5                                                                              | 26.5                                                                              | 26.5                                                                              | 24.5                                                                                | 24.5                                                                                |
| Total Split (s)        | 30.0                                                                              | 30.0                                                                              | 30.0                                                                              | 30.0                                                                              | 35.0                                                                              | 35.0                                                                              | 35.0                                                                                | 35.0                                                                                |
| Total Split (%)        | 46.2%                                                                             | 46.2%                                                                             | 46.2%                                                                             | 46.2%                                                                             | 53.8%                                                                             | 53.8%                                                                             | 53.8%                                                                               | 53.8%                                                                               |
| Yellow Time (s)        | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.16                                                                              | 0.33                                                                              | 0.16                                                                              | 0.71                                                                              | 0.04                                                                              | 0.39                                                                              | 0.01                                                                                | 0.34                                                                                |
| Control Delay          | 18.3                                                                              | 18.2                                                                              | 17.6                                                                              | 28.9                                                                              | 9.5                                                                               | 11.4                                                                              | 9.4                                                                                 | 10.7                                                                                |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 18.3                                                                              | 18.2                                                                              | 17.6                                                                              | 28.9                                                                              | 9.5                                                                               | 11.4                                                                              | 9.4                                                                                 | 10.7                                                                                |
| Queue Length 50th (m)  | 3.1                                                                               | 15.1                                                                              | 5.1                                                                               | 39.8                                                                              | 1.5                                                                               | 25.2                                                                              | 0.3                                                                                 | 19.3                                                                                |
| Queue Length 95th (m)  | 8.3                                                                               | 25.8                                                                              | 11.4                                                                              | 57.9                                                                              | 5.7                                                                               | 52.5                                                                              | 2.0                                                                                 | 41.9                                                                                |
| Internal Link Dist (m) |                                                                                   | 118.0                                                                             |                                                                                   | 135.5                                                                             |                                                                                   | 2407.1                                                                            |                                                                                     | 261.5                                                                               |
| Turn Bay Length (m)    | 65.0                                                                              |                                                                                   | 65.0                                                                              |                                                                                   | 65.0                                                                              |                                                                                   | 65.0                                                                                |                                                                                     |
| Base Capacity (vph)    | 265                                                                               | 660                                                                               | 444                                                                               | 676                                                                               | 582                                                                               | 973                                                                               | 455                                                                                 | 908                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.12                                                                              | 0.25                                                                              | 0.12                                                                              | 0.52                                                                              | 0.04                                                                              | 0.39                                                                              | 0.01                                                                                | 0.34                                                                                |

## Intersection Summary

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 12: Dixie Road



# HCM Signalized Intersection Capacity Analysis

## 12: Dixie Road

Existing PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |  |  |                                                                                   |  |  |                                                                                     |  |  |                                                                                     |
| Traffic Volume (vph)              | 30                                                                                | 135                                                                               | 20                                                                                | 50                                                                                | 320                                                                               | 15                                                                                | 25                                                                                  | 330                                                                                 | 30                                                                                  | 5                                                                                   | 260                                                                                 | 30                                                                                  |
| Future Volume (vph)               | 30                                                                                | 135                                                                               | 20                                                                                | 50                                                                                | 320                                                                               | 15                                                                                | 25                                                                                  | 330                                                                                 | 30                                                                                  | 5                                                                                   | 260                                                                                 | 30                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Total Lost time (s)               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     |
| Frt                               | 1.00                                                                              | 0.98                                                                              |                                                                                   | 1.00                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                                | 0.99                                                                                |                                                                                     | 1.00                                                                                | 0.98                                                                                |                                                                                     |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     | 0.95                                                                                | 1.00                                                                                |                                                                                     |
| Satd. Flow (prot)                 | 1805                                                                              | 1804                                                                              |                                                                                   | 1787                                                                              | 1863                                                                              |                                                                                   | 1805                                                                                | 1817                                                                                |                                                                                     | 1583                                                                                | 1693                                                                                |                                                                                     |
| Flt Permitted                     | 0.39                                                                              | 1.00                                                                              |                                                                                   | 0.65                                                                              | 1.00                                                                              |                                                                                   | 0.57                                                                                | 1.00                                                                                |                                                                                     | 0.51                                                                                | 1.00                                                                                |                                                                                     |
| Satd. Flow (perm)                 | 734                                                                               | 1804                                                                              |                                                                                   | 1230                                                                              | 1863                                                                              |                                                                                   | 1090                                                                                | 1817                                                                                |                                                                                     | 854                                                                                 | 1693                                                                                |                                                                                     |
| Peak-hour factor, PHF             | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                              | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                | 0.95                                                                                |
| Adj. Flow (vph)                   | 32                                                                                | 142                                                                               | 21                                                                                | 53                                                                                | 337                                                                               | 16                                                                                | 26                                                                                  | 347                                                                                 | 32                                                                                  | 5                                                                                   | 274                                                                                 | 32                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 10                                                                                | 0                                                                                 | 0                                                                                 | 3                                                                                 | 0                                                                                 | 0                                                                                   | 4                                                                                   | 0                                                                                   | 0                                                                                   | 6                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 32                                                                                | 153                                                                               | 0                                                                                 | 53                                                                                | 350                                                                               | 0                                                                                 | 26                                                                                  | 375                                                                                 | 0                                                                                   | 5                                                                                   | 300                                                                                 | 0                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 3%                                                                                | 5%                                                                                | 1%                                                                                | 1%                                                                                | 7%                                                                                | 0%                                                                                  | 2%                                                                                  | 17%                                                                                 | 14%                                                                                 | 11%                                                                                 | 6%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 17.3                                                                              | 17.3                                                                              |                                                                                   | 17.3                                                                              | 17.3                                                                              |                                                                                   | 34.7                                                                                | 34.7                                                                                |                                                                                     | 34.7                                                                                | 34.7                                                                                |                                                                                     |
| Effective Green, g (s)            | 17.3                                                                              | 17.3                                                                              |                                                                                   | 17.3                                                                              | 17.3                                                                              |                                                                                   | 34.7                                                                                | 34.7                                                                                |                                                                                     | 34.7                                                                                | 34.7                                                                                |                                                                                     |
| Actuated g/C Ratio                | 0.27                                                                              | 0.27                                                                              |                                                                                   | 0.27                                                                              | 0.27                                                                              |                                                                                   | 0.53                                                                                | 0.53                                                                                |                                                                                     | 0.53                                                                                | 0.53                                                                                |                                                                                     |
| Clearance Time (s)                | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 195                                                                               | 480                                                                               |                                                                                   | 327                                                                               | 495                                                                               |                                                                                   | 581                                                                                 | 969                                                                                 |                                                                                     | 455                                                                                 | 903                                                                                 |                                                                                     |
| v/s Ratio Prot                    |                                                                                   | 0.09                                                                              |                                                                                   |                                                                                   | c0.19                                                                             |                                                                                   |                                                                                     | c0.21                                                                               |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| v/s Ratio Perm                    | 0.04                                                                              |                                                                                   |                                                                                   | 0.04                                                                              |                                                                                   |                                                                                   | 0.02                                                                                |                                                                                     |                                                                                     | 0.01                                                                                |                                                                                     |                                                                                     |
| v/c Ratio                         | 0.16                                                                              | 0.32                                                                              |                                                                                   | 0.16                                                                              | 0.71                                                                              |                                                                                   | 0.04                                                                                | 0.39                                                                                |                                                                                     | 0.01                                                                                | 0.33                                                                                |                                                                                     |
| Uniform Delay, d1                 | 18.3                                                                              | 19.1                                                                              |                                                                                   | 18.3                                                                              | 21.6                                                                              |                                                                                   | 7.2                                                                                 | 8.9                                                                                 |                                                                                     | 7.1                                                                                 | 8.6                                                                                 |                                                                                     |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     | 1.00                                                                                | 1.00                                                                                |                                                                                     |
| Incremental Delay, d2             | 0.4                                                                               | 0.4                                                                               |                                                                                   | 0.2                                                                               | 4.6                                                                               |                                                                                   | 0.1                                                                                 | 1.2                                                                                 |                                                                                     | 0.0                                                                                 | 1.0                                                                                 |                                                                                     |
| Delay (s)                         | 18.7                                                                              | 19.5                                                                              |                                                                                   | 18.5                                                                              | 26.1                                                                              |                                                                                   | 7.4                                                                                 | 10.1                                                                                |                                                                                     | 7.1                                                                                 | 9.6                                                                                 |                                                                                     |
| Level of Service                  | B                                                                                 | B                                                                                 |                                                                                   | B                                                                                 | C                                                                                 |                                                                                   | A                                                                                   | B                                                                                   |                                                                                     | A                                                                                   | A                                                                                   |                                                                                     |
| Approach Delay (s)                |                                                                                   | 19.4                                                                              |                                                                                   |                                                                                   | 25.1                                                                              |                                                                                   |                                                                                     | 9.9                                                                                 |                                                                                     |                                                                                     | 9.5                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 15.9                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.49                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 65.0                                                                              |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 13.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 58.9%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

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## 

Existing PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 15                                                                                | 125                                                                               | 25                                                                                | 15                                                                                | 305                                                                               | 10                                                                                | 60                                                                                 | 180                                                                                 | 35                                                                                  | 10                                                                                  | 50                                                                                  | 15                                                                                  |
| Future Volume (vph)               | 15                                                                                | 125                                                                               | 25                                                                                | 15                                                                                | 305                                                                               | 10                                                                                | 60                                                                                 | 180                                                                                 | 35                                                                                  | 10                                                                                  | 50                                                                                  | 15                                                                                  |
| Peak Hour Factor                  | 0.99                                                                              | 0.99                                                                              | 0.99                                                                              | 0.99                                                                              | 0.99                                                                              | 0.99                                                                              | 0.99                                                                               | 0.99                                                                                | 0.99                                                                                | 0.99                                                                                | 0.99                                                                                | 0.99                                                                                |
| Hourly flow rate (vph)            | 15                                                                                | 126                                                                               | 25                                                                                | 15                                                                                | 308                                                                               | 10                                                                                | 61                                                                                 | 182                                                                                 | 35                                                                                  | 10                                                                                  | 51                                                                                  | 15                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 166                                                                               | 333                                                                               | 278                                                                               | 76                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 15                                                                                | 15                                                                                | 61                                                                                | 10                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 25                                                                                | 10                                                                                | 35                                                                                | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | -0.07                                                                             | -0.01                                                                             | -0.03                                                                             | -0.09                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 5.3                                                                               | 5.2                                                                               | 5.3                                                                               | 5.6                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.25                                                                              | 0.48                                                                              | 0.41                                                                              | 0.12                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 614                                                                               | 660                                                                               | 623                                                                               | 555                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 10.1                                                                              | 12.8                                                                              | 12.0                                                                              | 9.4                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 10.1                                                                              | 12.8                                                                              | 12.0                                                                              | 9.4                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | B                                                                                 | B                                                                                 | B                                                                                 | A                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   |                                                                                   | 11.7                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 48.3%                                                                             | ICU Level of Service                                                              | A                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Queues

### 1: Dixie Road & Mayfield Road

Future Background 2028 (12489) AM Peak Hour

|                        |                                                                                    |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |                                                                                      |  |                                                                                      |                                                                                      |  |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                                                                                                                 | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                | NBT                                                                                                                                                                     | NBR                                                                                 | SBL                                                                                                                                                                     | SBT                                                                                                                                                                     | SBR                                                                                 |
| Lane Configurations    |   |    |  |  |    |  |  |   |  |   |   |  |
| Traffic Volume (vph)   | 845                                                                                                                                                                 | 1820                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 845                                                                                                                                                                                                                                                   | 205                                                                               | 130                                                                                | 325                                                                                                                                                                     | 60                                                                                  | 110                                                                                                                                                                     | 300                                                                                                                                                                     | 425                                                                                 |
| Future Volume (vph)    | 845                                                                                                                                                                 | 1820                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 845                                                                                                                                                                                                                                                   | 205                                                                               | 130                                                                                | 325                                                                                                                                                                     | 60                                                                                  | 110                                                                                                                                                                     | 300                                                                                                                                                                     | 425                                                                                 |
| Lane Group Flow (vph)  | 845                                                                                                                                                                 | 1820                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 845                                                                                                                                                                                                                                                   | 205                                                                               | 130                                                                                | 325                                                                                                                                                                     | 60                                                                                  | 110                                                                                                                                                                     | 300                                                                                                                                                                     | 425                                                                                 |
| Turn Type              | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | custom                                                                            | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | custom                                                                            | pm+pt                                                                              | NA                                                                                                                                                                      | custom                                                                              | pm+pt                                                                                                                                                                   | NA                                                                                                                                                                      | custom                                                                              |
| Protected Phases       | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                   | 7                                                                                  | 4                                                                                                                                                                       |                                                                                     | 3                                                                                                                                                                       | 8                                                                                                                                                                       |                                                                                     |
| Permitted Phases       |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 2 4                                                                               | 6                                                                                 |                                                                                                                                                                                                                                                       | 6 8                                                                               | 4                                                                                  |                                                                                                                                                                         | 4 6                                                                                 | 8                                                                                                                                                                       |                                                                                                                                                                         | 8 2                                                                                 |
| Detector Phase         | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     | 2 4                                                                               | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 6 8                                                                               | 7                                                                                  | 4                                                                                                                                                                       | 4 6                                                                                 | 3                                                                                                                                                                       | 8                                                                                                                                                                       | 8 2                                                                                 |
| Switch Phase           |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                    |                                                                                                                                                                         |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                                                                                                                 | 8.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                               | 8.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                                | 8.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                                                                                                     | 8.0                                                                                                                                                                     |                                                                                     |
| Minimum Split (s)      | 9.5                                                                                                                                                                 | 44.9                                                                                                                                                                                                                                                  |                                                                                   | 9.5                                                                               | 44.9                                                                                                                                                                                                                                                  |                                                                                   | 9.5                                                                                | 47.0                                                                                                                                                                    |                                                                                     | 9.5                                                                                                                                                                     | 47.9                                                                                                                                                                    |                                                                                     |
| Total Split (s)        | 31.0                                                                                                                                                                | 66.4                                                                                                                                                                                                                                                  |                                                                                   | 9.6                                                                               | 45.0                                                                                                                                                                                                                                                  |                                                                                   | 11.1                                                                               | 47.9                                                                                                                                                                    |                                                                                     | 11.1                                                                                                                                                                    | 47.9                                                                                                                                                                    |                                                                                     |
| Total Split (%)        | 23.0%                                                                                                                                                               | 49.2%                                                                                                                                                                                                                                                 |                                                                                   | 7.1%                                                                              | 33.3%                                                                                                                                                                                                                                                 |                                                                                   | 8.2%                                                                               | 35.5%                                                                                                                                                                   |                                                                                     | 8.2%                                                                                                                                                                    | 35.5%                                                                                                                                                                   |                                                                                     |
| Yellow Time (s)        | 3.5                                                                                                                                                                 | 4.6                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                               | 4.6                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                                | 4.0                                                                                                                                                                     |                                                                                     | 3.5                                                                                                                                                                     | 4.6                                                                                                                                                                     |                                                                                     |
| All-Red Time (s)       | 1.0                                                                                                                                                                 | 2.3                                                                                                                                                                                                                                                   |                                                                                   | 1.0                                                                               | 2.3                                                                                                                                                                                                                                                   |                                                                                   | 1.0                                                                                | 2.0                                                                                                                                                                     |                                                                                     | 1.0                                                                                                                                                                     | 2.3                                                                                                                                                                     |                                                                                     |
| Lost Time Adjust (s)   | -1.0                                                                                                                                                                | 0.0                                                                                                                                                                                                                                                   |                                                                                   | -1.0                                                                              | 0.0                                                                                                                                                                                                                                                   |                                                                                   | -1.0                                                                               | 0.0                                                                                                                                                                     |                                                                                     | -1.0                                                                                                                                                                    | 0.0                                                                                                                                                                     |                                                                                     |
| Total Lost Time (s)    | 3.5                                                                                                                                                                 | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                               | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                                | 6.0                                                                                                                                                                     |                                                                                     | 3.5                                                                                                                                                                     | 6.9                                                                                                                                                                     |                                                                                     |
| Lead/Lag               | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                              | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                               | Lag                                                                                                                                                                     |                                                                                     | Lead                                                                                                                                                                    | Lag                                                                                                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                               | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                                | Yes                                                                                                                                                                     |                                                                                     | Yes                                                                                                                                                                     | Yes                                                                                                                                                                     |                                                                                     |
| Recall Mode            | None                                                                                                                                                                | C-Min                                                                                                                                                                                                                                                 |                                                                                   | None                                                                              | C-Min                                                                                                                                                                                                                                                 |                                                                                   | None                                                                               | None                                                                                                                                                                    |                                                                                     | None                                                                                                                                                                    | None                                                                                                                                                                    |                                                                                     |
| v/c Ratio              | 0.75                                                                                                                                                                | 0.64                                                                                                                                                                                                                                                  | 0.23                                                                              | 0.40                                                                              | 0.77                                                                                                                                                                                                                                                  | 0.30                                                                              | 0.51                                                                               | 0.63                                                                                                                                                                    | 0.10                                                                                | 0.57                                                                                                                                                                    | 0.64                                                                                                                                                                    | 0.37                                                                                |
| Control Delay          | 42.2                                                                                                                                                                | 21.2                                                                                                                                                                                                                                                  | 0.8                                                                               | 27.6                                                                              | 52.5                                                                                                                                                                                                                                                  | 2.8                                                                               | 47.4                                                                               | 59.1                                                                                                                                                                    | 1.4                                                                                 | 52.8                                                                                                                                                                    | 60.7                                                                                                                                                                    | 1.2                                                                                 |
| Queue Delay            | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                                                                                                     | 0.0                                                                                                                                                                     | 0.0                                                                                 |
| Total Delay            | 42.2                                                                                                                                                                | 21.2                                                                                                                                                                                                                                                  | 0.8                                                                               | 27.6                                                                              | 52.5                                                                                                                                                                                                                                                  | 2.8                                                                               | 47.4                                                                               | 59.1                                                                                                                                                                    | 1.4                                                                                 | 52.8                                                                                                                                                                    | 60.7                                                                                                                                                                    | 1.2                                                                                 |
| Queue Length 50th (m)  | 109.5                                                                                                                                                               | 127.8                                                                                                                                                                                                                                                 | 0.0                                                                               | 5.4                                                                               | 80.1                                                                                                                                                                                                                                                  | 0.0                                                                               | 28.5                                                                               | 45.5                                                                                                                                                                    | 0.0                                                                                 | 24.2                                                                                                                                                                    | 42.2                                                                                                                                                                    | 0.0                                                                                 |
| Queue Length 95th (m)  | #155.8                                                                                                                                                              | 157.3                                                                                                                                                                                                                                                 | 3.8                                                                               | 12.4                                                                              | 92.7                                                                                                                                                                                                                                                  | 10.1                                                                              | 46.2                                                                               | 59.2                                                                                                                                                                    | 3.0                                                                                 | 41.0                                                                                                                                                                    | 55.6                                                                                                                                                                    | 4.5                                                                                 |
| Internal Link Dist (m) |                                                                                                                                                                     | 980.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                   | 272.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                    | 844.0                                                                                                                                                                   |                                                                                     |                                                                                                                                                                         | 481.5                                                                                                                                                                   |                                                                                     |
| Turn Bay Length (m)    | 115.0                                                                                                                                                               |                                                                                                                                                                                                                                                       | 75.0                                                                              | 115.0                                                                             |                                                                                                                                                                                                                                                       | 110.0                                                                             | 115.0                                                                              |                                                                                                                                                                         | 65.0                                                                                | 115.0                                                                                                                                                                   |                                                                                                                                                                         | 135.0                                                                               |
| Base Capacity (vph)    | 1124                                                                                                                                                                | 2851                                                                                                                                                                                                                                                  | 1351                                                                              | 149                                                                               | 1287                                                                                                                                                                                                                                                  | 951                                                                               | 255                                                                                | 1068                                                                                                                                                                    | 824                                                                                 | 193                                                                                                                                                                     | 998                                                                                                                                                                     | 1246                                                                                |
| Starvation Cap Reductn | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                       | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                       | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                       | 0                                                                                   |
| Reduced v/c Ratio      | 0.75                                                                                                                                                                | 0.64                                                                                                                                                                                                                                                  | 0.21                                                                              | 0.40                                                                              | 0.66                                                                                                                                                                                                                                                  | 0.22                                                                              | 0.51                                                                               | 0.30                                                                                                                                                                    | 0.07                                                                                | 0.57                                                                                                                                                                    | 0.30                                                                                                                                                                    | 0.34                                                                                |

#### Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

#### Splits and Phases: 1: Dixie Road & Mayfield Road

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |
| Ø1                                                                                  | Ø2 (R)                                                                              |                                                                                     | Ø3                                                                                  | Ø4                                                                                  |                                                                                     | Ø5                                                                                  | Ø6 (R)                                                                              | Ø7                                                                                  |
| 9.6 s                                                                               | 66.4 s                                                                              |                                                                                     | 11.1 s                                                                              | 47.9 s                                                                              |                                                                                     | 31 s                                                                                | 45 s                                                                                | 11.1 s                                                                              |
|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 47.9 s                                                                              |

# HCM Signalized Intersection Capacity Analysis

## 1: Dixie Road & Mayfield Road

Future Background 2028 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)              | 845                                                                               | 1820                                                                              | 280                                                                               | 60                                                                                | 845                                                                               | 205                                                                               | 130                                                                                 | 325                                                                                 | 60                                                                                  | 110                                                                                 | 300                                                                                 | 425                                                                                 |
| Future Volume (vph)               | 845                                                                               | 1820                                                                              | 280                                                                               | 60                                                                                | 845                                                                               | 205                                                                               | 130                                                                                 | 325                                                                                 | 60                                                                                  | 110                                                                                 | 300                                                                                 | 425                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 3.5                                                                               | 6.9                                                                               | 6.9                                                                               | 3.5                                                                               | 6.9                                                                               | 6.9                                                                               | 3.5                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 6.9                                                                                 |
| Lane Util. Factor                 | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 2886                                                                              | 4902                                                                              | 1554                                                                              | 1539                                                                              | 4561                                                                              | 1479                                                                              | 1666                                                                                | 3444                                                                                | 1319                                                                                | 1361                                                                                | 3288                                                                                | 1402                                                                                |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.12                                                                              | 1.00                                                                              | 1.00                                                                              | 0.45                                                                                | 1.00                                                                                | 1.00                                                                                | 0.39                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 2886                                                                              | 4902                                                                              | 1554                                                                              | 193                                                                               | 4561                                                                              | 1479                                                                              | 793                                                                                 | 3444                                                                                | 1319                                                                                | 561                                                                                 | 3288                                                                                | 1402                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 845                                                                               | 1820                                                                              | 280                                                                               | 60                                                                                | 845                                                                               | 205                                                                               | 130                                                                                 | 325                                                                                 | 60                                                                                  | 110                                                                                 | 300                                                                                 | 425                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 77                                                                                | 0                                                                                 | 0                                                                                 | 126                                                                               | 0                                                                                   | 0                                                                                   | 37                                                                                  | 0                                                                                   | 0                                                                                   | 120                                                                                 |
| Lane Group Flow (vph)             | 845                                                                               | 1820                                                                              | 203                                                                               | 60                                                                                | 845                                                                               | 79                                                                                | 130                                                                                 | 325                                                                                 | 23                                                                                  | 110                                                                                 | 300                                                                                 | 305                                                                                 |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   | 5                                                                                 | 5                                                                                 |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 20%                                                                               | 7%                                                                                | 1%                                                                                | 16%                                                                               | 15%                                                                               | 8%                                                                                | 7%                                                                                  | 6%                                                                                  | 19%                                                                                 | 31%                                                                                 | 11%                                                                                 | 12%                                                                                 |
| Turn Type                         | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                               | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases                  | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                   |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Actuated Green, G (s)             | 51.6                                                                              | 77.6                                                                              | 97.8                                                                              | 39.0                                                                              | 32.5                                                                              | 51.7                                                                              | 29.1                                                                                | 20.2                                                                                | 52.7                                                                                | 28.0                                                                                | 19.2                                                                                | 96.8                                                                                |
| Effective Green, g (s)            | 52.6                                                                              | 77.6                                                                              | 97.8                                                                              | 41.0                                                                              | 32.5                                                                              | 51.7                                                                              | 31.1                                                                                | 20.2                                                                                | 52.7                                                                                | 30.0                                                                                | 19.2                                                                                | 96.8                                                                                |
| Actuated g/C Ratio                | 0.39                                                                              | 0.57                                                                              | 0.72                                                                              | 0.30                                                                              | 0.24                                                                              | 0.38                                                                              | 0.23                                                                                | 0.15                                                                                | 0.39                                                                                | 0.22                                                                                | 0.14                                                                                | 0.72                                                                                |
| Clearance Time (s)                | 4.5                                                                               | 6.9                                                                               |                                                                                   | 4.5                                                                               | 6.9                                                                               |                                                                                   | 4.5                                                                                 | 6.0                                                                                 |                                                                                     | 4.5                                                                                 | 6.9                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 1124                                                                              | 2817                                                                              | 1125                                                                              | 133                                                                               | 1098                                                                              | 566                                                                               | 246                                                                                 | 515                                                                                 | 514                                                                                 | 182                                                                                 | 467                                                                                 | 1005                                                                                |
| v/s Ratio Prot                    | c0.29                                                                             | 0.37                                                                              |                                                                                   | 0.02                                                                              | c0.19                                                                             |                                                                                   | 0.04                                                                                | c0.09                                                                               |                                                                                     | c0.04                                                                               | 0.09                                                                                |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.13                                                                              | 0.11                                                                              |                                                                                   | 0.05                                                                              | 0.08                                                                                |                                                                                     | 0.02                                                                                | 0.09                                                                                |                                                                                     | 0.22                                                                                |
| v/c Ratio                         | 0.75                                                                              | 0.65                                                                              | 0.18                                                                              | 0.45                                                                              | 0.77                                                                              | 0.14                                                                              | 0.53                                                                                | 0.63                                                                                | 0.05                                                                                | 0.60                                                                                | 0.64                                                                                | 0.30                                                                                |
| Uniform Delay, d1                 | 35.6                                                                              | 19.4                                                                              | 5.9                                                                               | 44.6                                                                              | 47.8                                                                              | 27.1                                                                              | 43.4                                                                                | 53.9                                                                                | 25.5                                                                                | 44.6                                                                                | 54.7                                                                                | 6.9                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 2.9                                                                               | 1.2                                                                               | 0.1                                                                               | 2.4                                                                               | 5.2                                                                               | 0.1                                                                               | 2.0                                                                                 | 2.5                                                                                 | 0.0                                                                                 | 5.6                                                                                 | 3.0                                                                                 | 0.2                                                                                 |
| Delay (s)                         | 38.4                                                                              | 20.6                                                                              | 6.0                                                                               | 47.0                                                                              | 53.0                                                                              | 27.3                                                                              | 45.5                                                                                | 56.4                                                                                | 25.6                                                                                | 50.1                                                                                | 57.7                                                                                | 7.1                                                                                 |
| Level of Service                  | D                                                                                 | C                                                                                 | A                                                                                 | D                                                                                 | D                                                                                 | C                                                                                 | D                                                                                   | E                                                                                   | C                                                                                   | D                                                                                   | E                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 24.3                                                                              |                                                                                   |                                                                                   | 47.9                                                                              |                                                                                   |                                                                                     | 50.1                                                                                |                                                                                     |                                                                                     | 30.9                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 32.6                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.73                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 135.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 78.1%                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Queues

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Future Background 2028 (12489) AM Peak Hour



| Lane Group             | EBL   | EBR   | WBL   | WBT   | NBL   | NBT   | SBL   | SBT   | SBR   |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations    |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)   | 20    | 65    | 35    | 0     | 135   | 1125  | 15    | 735   | 40    |
| Future Volume (vph)    | 20    | 65    | 35    | 0     | 135   | 1125  | 15    | 735   | 40    |
| Lane Group Flow (vph)  | 20    | 65    | 35    | 5     | 135   | 1160  | 0     | 750   | 40    |
| Turn Type              | Perm  | Perm  | Perm  | NA    | Perm  | NA    | Perm  | NA    | Perm  |
| Protected Phases       |       |       |       | 8     |       | 2     |       | 6     |       |
| Permitted Phases       | 4     | 4     | 8     |       | 2     |       | 6     |       | 6     |
| Detector Phase         | 4     | 4     | 8     | 8     | 2     | 2     | 6     | 6     | 6     |
| Switch Phase           |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)      | 39.0  | 39.0  | 39.0  | 39.0  | 31.0  | 31.0  | 31.0  | 31.0  | 31.0  |
| Total Split (s)        | 42.0  | 42.0  | 42.0  | 42.0  | 78.0  | 78.0  | 78.0  | 78.0  | 78.0  |
| Total Split (%)        | 35.0% | 35.0% | 35.0% | 35.0% | 65.0% | 65.0% | 65.0% | 65.0% | 65.0% |
| Yellow Time (s)        | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| All-Red Time (s)       | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   |       | 6.0   | 6.0   |
| Lead/Lag               |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?     |       |       |       |       |       |       |       |       |       |
| Recall Mode            | None  | None  | None  | None  | C-Max | C-Max | C-Max | C-Max | C-Max |
| v/c Ratio              | 0.18  | 0.20  | 0.45  | 0.02  | 0.25  | 0.41  |       | 0.30  | 0.03  |
| Control Delay          | 52.5  | 1.4   | 69.4  | 0.2   | 4.3   | 3.7   |       | 1.0   | 0.2   |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |
| Total Delay            | 52.5  | 1.4   | 69.4  | 0.2   | 4.3   | 3.7   |       | 1.0   | 0.2   |
| Queue Length 50th (m)  | 4.7   | 0.0   | 8.4   | 0.0   | 6.1   | 33.0  |       | 1.1   | 0.3   |
| Queue Length 95th (m)  | 12.3  | 0.0   | 18.9  | 0.0   | 15.6  | 54.8  |       | 6.4   | m0.2  |
| Internal Link Dist (m) |       |       |       | 96.6  |       | 481.5 |       | 358.1 |       |
| Turn Bay Length (m)    | 15.0  | 15.0  | 15.0  |       | 70.0  |       |       |       | 65.0  |
| Base Capacity (vph)    | 393   | 577   | 271   | 551   | 543   | 2820  |       | 2467  | 1353  |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Reduced v/c Ratio      | 0.05  | 0.11  | 0.13  | 0.01  | 0.25  | 0.41  |       | 0.30  | 0.03  |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

#### Splits and Phases: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3



# HCM Signalized Intersection Capacity Analysis

5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Future Background 2028 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |  |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)              | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1125                                                                                | 35                                                                                  | 15                                                                                  | 735                                                                                 | 40                                                                                  |
| Future Volume (vph)               | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1125                                                                                | 35                                                                                  | 15                                                                                  | 735                                                                                 | 40                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              |                                                                                   | 0.85                                                                              | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              |                                                                                   | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1653                                                                              |                                                                                   | 1413                                                                              | 1137                                                                              | 1633                                                                              |                                                                                   | 1668                                                                                | 3343                                                                                |                                                                                     |                                                                                     | 3179                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.75                                                                              |                                                                                   | 1.00                                                                              | 0.76                                                                              | 1.00                                                                              |                                                                                   | 0.37                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.92                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1313                                                                              |                                                                                   | 1413                                                                              | 906                                                                               | 1633                                                                              |                                                                                   | 644                                                                                 | 3343                                                                                |                                                                                     |                                                                                     | 2924                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1125                                                                                | 35                                                                                  | 15                                                                                  | 735                                                                                 | 40                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 60                                                                                | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                   | 1                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 7                                                                                   |
| Lane Group Flow (vph)             | 20                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                | 0                                                                                 | 0                                                                                 | 135                                                                                 | 1159                                                                                | 0                                                                                   | 0                                                                                   | 750                                                                                 | 33                                                                                  |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     |                                                                                     |
| Heavy Vehicles (%)                | 8%                                                                                | 0%                                                                                | 13%                                                                               | 57%                                                                               | 0%                                                                                | 0%                                                                                | 7%                                                                                  | 8%                                                                                  | 28%                                                                                 | 0%                                                                                  | 15%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 9.1                                                                               |                                                                                   | 9.1                                                                               | 9.1                                                                               | 9.1                                                                               |                                                                                   | 98.9                                                                                | 98.9                                                                                |                                                                                     |                                                                                     | 98.9                                                                                | 98.9                                                                                |
| Effective Green, g (s)            | 9.1                                                                               |                                                                                   | 9.1                                                                               | 9.1                                                                               | 9.1                                                                               |                                                                                   | 98.9                                                                                | 98.9                                                                                |                                                                                     |                                                                                     | 98.9                                                                                | 98.9                                                                                |
| Actuated g/C Ratio                | 0.08                                                                              |                                                                                   | 0.08                                                                              | 0.08                                                                              | 0.08                                                                              |                                                                                   | 0.82                                                                                | 0.82                                                                                |                                                                                     |                                                                                     | 0.82                                                                                | 0.82                                                                                |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 99                                                                                |                                                                                   | 107                                                                               | 68                                                                                | 123                                                                               |                                                                                   | 530                                                                                 | 2755                                                                                |                                                                                     |                                                                                     | 2409                                                                                | 1316                                                                                |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                     | c0.35                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    | 0.02                                                                              |                                                                                   | 0.00                                                                              | c0.04                                                                             |                                                                                   |                                                                                   | 0.21                                                                                |                                                                                     |                                                                                     |                                                                                     | 0.26                                                                                | 0.02                                                                                |
| v/c Ratio                         | 0.20                                                                              |                                                                                   | 0.05                                                                              | 0.51                                                                              | 0.00                                                                              |                                                                                   | 0.25                                                                                | 0.42                                                                                |                                                                                     |                                                                                     | 0.31                                                                                | 0.03                                                                                |
| Uniform Delay, d1                 | 52.0                                                                              |                                                                                   | 51.4                                                                              | 53.3                                                                              | 51.3                                                                              |                                                                                   | 2.3                                                                                 | 2.8                                                                                 |                                                                                     |                                                                                     | 2.5                                                                                 | 1.9                                                                                 |
| Progression Factor                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.26                                                                                | 0.16                                                                                |
| Incremental Delay, d2             | 1.0                                                                               |                                                                                   | 0.2                                                                               | 6.4                                                                               | 0.0                                                                               |                                                                                   | 1.2                                                                                 | 0.5                                                                                 |                                                                                     |                                                                                     | 0.3                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 53.1                                                                              |                                                                                   | 51.6                                                                              | 59.8                                                                              | 51.3                                                                              |                                                                                   | 3.5                                                                                 | 3.3                                                                                 |                                                                                     |                                                                                     | 0.9                                                                                 | 0.3                                                                                 |
| Level of Service                  | D                                                                                 |                                                                                   | D                                                                                 | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 51.9                                                                              |                                                                                   |                                                                                   | 58.7                                                                              |                                                                                   |                                                                                     | 3.3                                                                                 |                                                                                     |                                                                                     | 0.9                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 5.3                                                                               |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.43                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 76.6%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



## Queues

### 7: Dixie Road & UPS Facility Access/12173 West Access 1 Future Background 2028 (12489) AM Peak Hour

|                        |  |  |  |  |  |      |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Lane Group             | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBL                                                                               | SBT                                                                               | Ø8   |
| Lane Configurations    |  |                                                                                   |  |                                                                                   |  |      |
| Traffic Volume (vph)   | 5                                                                                 | 60                                                                                | 1030                                                                              | 15                                                                                | 815                                                                               |      |
| Future Volume (vph)    | 5                                                                                 | 60                                                                                | 1030                                                                              | 15                                                                                | 815                                                                               |      |
| Lane Group Flow (vph)  | 5                                                                                 | 0                                                                                 | 1100                                                                              | 0                                                                                 | 845                                                                               |      |
| Turn Type              | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                |      |
| Protected Phases       |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   | 6                                                                                 | 8    |
| Permitted Phases       | 4                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 |                                                                                   |      |
| Detector Phase         | 4                                                                                 | 2                                                                                 | 2                                                                                 | 6                                                                                 | 6                                                                                 |      |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0  |
| Minimum Split (s)      | 39.0                                                                              | 31.0                                                                              | 31.0                                                                              | 31.0                                                                              | 31.0                                                                              | 39.0 |
| Total Split (s)        | 39.0                                                                              | 81.0                                                                              | 81.0                                                                              | 81.0                                                                              | 81.0                                                                              | 39.0 |
| Total Split (%)        | 32.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 33%  |
| Yellow Time (s)        | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0  |
| All-Red Time (s)       | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0  |
| Lost Time Adjust (s)   | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               |      |
| Total Lost Time (s)    | 6.0                                                                               |                                                                                   | 6.0                                                                               |                                                                                   | 6.0                                                                               |      |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Recall Mode            | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                             | C-Max                                                                             | None |
| v/c Ratio              | 0.02                                                                              |                                                                                   | 0.70                                                                              |                                                                                   | 0.53                                                                              |      |
| Control Delay          | 0.2                                                                               |                                                                                   | 8.0                                                                               |                                                                                   | 5.2                                                                               |      |
| Queue Delay            | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   | 0.0                                                                               |      |
| Total Delay            | 0.2                                                                               |                                                                                   | 8.0                                                                               |                                                                                   | 5.2                                                                               |      |
| Queue Length 50th (m)  | 0.0                                                                               |                                                                                   | 70.9                                                                              |                                                                                   | 6.0                                                                               |      |
| Queue Length 95th (m)  | 0.0                                                                               |                                                                                   | 173.7                                                                             |                                                                                   | 196.6                                                                             |      |
| Internal Link Dist (m) |                                                                                   |                                                                                   | 358.1                                                                             |                                                                                   | 696.2                                                                             |      |
| Turn Bay Length (m)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Base Capacity (vph)    | 418                                                                               |                                                                                   | 1582                                                                              |                                                                                   | 1591                                                                              |      |
| Starvation Cap Reductn | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 |      |
| Spillback Cap Reductn  | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 |      |
| Storage Cap Reductn    | 0                                                                                 |                                                                                   | 0                                                                                 |                                                                                   | 0                                                                                 |      |
| Reduced v/c Ratio      | 0.01                                                                              |                                                                                   | 0.70                                                                              |                                                                                   | 0.53                                                                              |      |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Splits and Phases: 7: Dixie Road & UPS Facility Access/12173 West Access 1



# HCM Signalized Intersection Capacity Analysis

7: Dixie Road & UPS Facility Access/12173 West Access 1 Future Background 2028 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |                                                                                     |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)              | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1030                                                                                | 10                                                                                  | 15                                                                                  | 815                                                                                 | 15                                                                                  |
| Future Volume (vph)               | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1030                                                                                | 10                                                                                  | 15                                                                                  | 815                                                                                 | 15                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Lane Util. Factor                 |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                               |                                                                                   |                                                                                   | 0.85                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flt Protected                     |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (prot)                 |                                                                                   |                                                                                   | 998                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1776                                                                                |                                                                                     |                                                                                     | 1678                                                                                |                                                                                     |
| Flt Permitted                     |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.91                                                                                |                                                                                     |                                                                                     | 0.97                                                                                |                                                                                     |
| Satd. Flow (perm)                 |                                                                                   |                                                                                   | 998                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1628                                                                                |                                                                                     |                                                                                     | 1638                                                                                |                                                                                     |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1030                                                                                | 10                                                                                  | 15                                                                                  | 815                                                                                 | 15                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 1100                                                                                | 0                                                                                   | 0                                                                                   | 845                                                                                 | 0                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 60%                                                                               | 0%                                                                                | 0%                                                                                | 0%                                                                                | 5%                                                                                  | 8%                                                                                  | 0%                                                                                  | 0%                                                                                  | 12%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Actuated Green, G (s)             |                                                                                   |                                                                                   | 1.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 106.9                                                                               |                                                                                     |                                                                                     | 106.9                                                                               |                                                                                     |
| Effective Green, g (s)            |                                                                                   |                                                                                   | 1.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 106.9                                                                               |                                                                                     |                                                                                     | 106.9                                                                               |                                                                                     |
| Actuated g/C Ratio                |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.89                                                                                |                                                                                     |                                                                                     | 0.89                                                                                |                                                                                     |
| Clearance Time (s)                |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                |                                                                                   |                                                                                   | 9                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1450                                                                                |                                                                                     |                                                                                     | 1459                                                                                |                                                                                     |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | c0.00                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     | c0.68                                                                               |                                                                                     |                                                                                     | 0.52                                                                                |                                                                                     |
| v/c Ratio                         |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.76                                                                                |                                                                                     |                                                                                     | 0.58                                                                                |                                                                                     |
| Uniform Delay, d1                 |                                                                                   |                                                                                   | 58.9                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 2.2                                                                                 |                                                                                     |                                                                                     | 1.5                                                                                 |                                                                                     |
| Progression Factor                |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 3.31                                                                                |                                                                                     |                                                                                     | 4.61                                                                                |                                                                                     |
| Incremental Delay, d2             |                                                                                   |                                                                                   | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 3.5                                                                                 |                                                                                     |                                                                                     | 1.5                                                                                 |                                                                                     |
| Delay (s)                         |                                                                                   |                                                                                   | 59.1                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 10.8                                                                                |                                                                                     |                                                                                     | 8.3                                                                                 |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Approach Delay (s)                |                                                                                   | 59.1                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                     | 10.8                                                                                |                                                                                     |                                                                                     | 8.3                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 9.9                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.75                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     | Sum of lost time (s)                                                                |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 92.5%                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     | ICU Level of Service                                                                |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Dixie Road & 12489 Site Access 1

Future Background 2028 (12489) AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 0                                                                                 | 1005                                                                              | 0                                                                                 | 0                                                                                 | 815                                                                               |
| Future Volume (Veh/h)             | 0                                                                                 | 0                                                                                 | 1005                                                                              | 0                                                                                 | 0                                                                                 | 815                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 0                                                                                 | 1005                                                                              | 0                                                                                 | 0                                                                                 | 815                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 394                                                                               |
| pX, platoon unblocked             | 0.86                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1820                                                                              | 1005                                                                              |                                                                                   |                                                                                   | 1005                                                                              |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1872                                                                              | 1005                                                                              |                                                                                   |                                                                                   | 1005                                                                              |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 100                                                                               |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 69                                                                                | 296                                                                               |                                                                                   |                                                                                   | 697                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 0                                                                                 | 1005                                                                              | 0                                                                                 | 815                                                                               |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 697                                                                               |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.00                                                                              | 0.59                                                                              | 0.00                                                                              | 0.00                                                                              |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 56.2%                                                                             |                                                                                   | ICU Level of Service                                                              | B                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Future Background 2028 (12489) AM Peak Hour



| Lane Group             | EBL   | EBT   | NBL   | NBT   | SBT   | SBR   | Ø8   |
|------------------------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations    |       |       |       |       |       |       |      |
| Traffic Volume (vph)   | 15    | 0     | 70    | 935   | 790   | 25    |      |
| Future Volume (vph)    | 15    | 0     | 70    | 935   | 790   | 25    |      |
| Lane Group Flow (vph)  | 15    | 30    | 70    | 935   | 790   | 25    |      |
| Turn Type              | Perm  | NA    | Perm  | NA    | NA    | Perm  |      |
| Protected Phases       |       | 4     |       | 2     | 6     |       | 8    |
| Permitted Phases       | 4     |       | 2     |       |       | 6     |      |
| Detector Phase         | 4     | 4     | 2     | 2     | 6     | 6     |      |
| Switch Phase           |       |       |       |       |       |       |      |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0  |
| Minimum Split (s)      | 30.5  | 30.5  | 28.5  | 28.5  | 28.5  | 28.5  | 30.5 |
| Total Split (s)        | 30.5  | 30.5  | 89.5  | 89.5  | 89.5  | 89.5  | 30.5 |
| Total Split (%)        | 25.4% | 25.4% | 74.6% | 74.6% | 74.6% | 74.6% | 25%  |
| Yellow Time (s)        | 4.0   | 4.0   | 4.5   | 4.5   | 4.5   | 4.5   | 4.0  |
| All-Red Time (s)       | 2.5   | 2.5   | 2.0   | 2.0   | 2.0   | 2.0   | 2.5  |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5   | 6.5   | 6.5   | 6.5   |      |
| Lead/Lag               |       |       |       |       |       |       |      |
| Lead-Lag Optimize?     |       |       |       |       |       |       |      |
| Recall Mode            | None  | None  | C-Max | C-Max | C-Max | C-Max | None |
| v/c Ratio              | 0.16  | 0.09  | 0.12  | 0.59  | 0.52  | 0.02  |      |
| Control Delay          | 56.9  | 0.6   | 2.4   | 6.9   | 7.3   | 1.4   |      |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Delay            | 56.9  | 0.6   | 2.4   | 6.9   | 7.3   | 1.4   |      |
| Queue Length 50th (m)  | 3.6   | 0.0   | 3.8   | 148.2 | 30.5  | 0.0   |      |
| Queue Length 95th (m)  | 10.8  | 0.0   | m3.9  | 141.4 | 204.4 | m2.0  |      |
| Internal Link Dist (m) |       | 161.0 |       | 369.7 | 813.5 |       |      |
| Turn Bay Length (m)    | 20.0  |       | 60.0  |       |       | 60.0  |      |
| Base Capacity (vph)    | 327   | 523   | 574   | 1579  | 1523  | 1435  |      |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Reduced v/c Ratio      | 0.05  | 0.06  | 0.12  | 0.59  | 0.52  | 0.02  |      |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

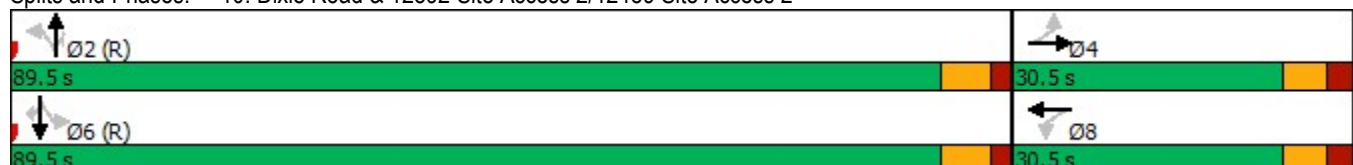
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2



# HCM Signalized Intersection Capacity Analysis

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Future Background 2028 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 15                                                                                | 0                                                                                 | 30                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 70                                                                                  | 935                                                                                 | 0                                                                                   | 0                                                                                   | 790                                                                                 | 25                                                                                  |
| Future Volume (vph)               | 15                                                                                | 0                                                                                 | 30                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 70                                                                                  | 935                                                                                 | 0                                                                                   | 0                                                                                   | 790                                                                                 | 25                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.0                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.5                                                                               | 6.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 0.85                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              | 1633                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1785                                                                                | 1762                                                                                |                                                                                     |                                                                                     | 1700                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.87                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.34                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1634                                                                              | 1633                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 640                                                                                 | 1762                                                                                |                                                                                     |                                                                                     | 1700                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 15                                                                                | 0                                                                                 | 30                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 70                                                                                  | 935                                                                                 | 0                                                                                   | 0                                                                                   | 790                                                                                 | 25                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 29                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 4                                                                                   |
| Lane Group Flow (vph)             | 15                                                                                | 1                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 70                                                                                  | 935                                                                                 | 0                                                                                   | 0                                                                                   | 790                                                                                 | 21                                                                                  |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                  | 9%                                                                                  | 0%                                                                                  | 0%                                                                                  | 13%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              |                                                                                   |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 4.6                                                                               | 4.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 102.4                                                                               | 102.4                                                                               |                                                                                     |                                                                                     | 102.4                                                                               | 102.4                                                                               |
| Effective Green, g (s)            | 4.6                                                                               | 4.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 102.4                                                                               | 102.4                                                                               |                                                                                     |                                                                                     | 102.4                                                                               | 102.4                                                                               |
| Actuated g/C Ratio                | 0.04                                                                              | 0.04                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.85                                                                                | 0.85                                                                                |                                                                                     |                                                                                     | 0.85                                                                                | 0.85                                                                                |
| Clearance Time (s)                | 6.5                                                                               | 6.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 62                                                                                | 62                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 546                                                                                 | 1503                                                                                |                                                                                     |                                                                                     | 1450                                                                                | 1362                                                                                |
| v/s Ratio Prot                    |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | c0.53                                                                               |                                                                                     |                                                                                     | 0.46                                                                                |                                                                                     |
| v/s Ratio Perm                    | c0.01                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.11                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.01                                                                                |
| v/c Ratio                         | 0.24                                                                              | 0.02                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.13                                                                                | 0.62                                                                                |                                                                                     |                                                                                     | 0.54                                                                                | 0.02                                                                                |
| Uniform Delay, d1                 | 56.0                                                                              | 55.5                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.4                                                                                 | 2.8                                                                                 |                                                                                     |                                                                                     | 2.4                                                                                 | 1.3                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.14                                                                                | 1.89                                                                                |                                                                                     |                                                                                     | 2.40                                                                                | 2.82                                                                                |
| Incremental Delay, d2             | 2.0                                                                               | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.3                                                                                 | 1.4                                                                                 |                                                                                     |                                                                                     | 1.3                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 58.0                                                                              | 55.6                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2.0                                                                                 | 6.6                                                                                 |                                                                                     |                                                                                     | 7.1                                                                                 | 3.7                                                                                 |
| Level of Service                  | E                                                                                 | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 56.4                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                     | 6.3                                                                                 |                                                                                     |                                                                                     | 7.0                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   | 7.8                                                                               |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   | 0.61                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                   |                                                                                     | 13.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   | 73.2%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 11: Dixie Road & 12861 Site Access 1

Future Background 2028 (12489) AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |                                                                                   |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 20                                                                                | 800                                                                               | 150                                                                               | 0                                                                                 | 815                                                                               |
| Future Volume (Veh/h)             | 0                                                                                 | 20                                                                                | 800                                                                               | 150                                                                               | 0                                                                                 | 815                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 20                                                                                | 800                                                                               | 150                                                                               | 0                                                                                 | 815                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 240                                                                               |
| pX, platoon unblocked             | 0.75                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1690                                                                              | 875                                                                               |                                                                                   |                                                                                   | 950                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1755                                                                              | 875                                                                               |                                                                                   |                                                                                   | 950                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 94                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 71                                                                                | 351                                                                               |                                                                                   |                                                                                   | 731                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 20                                                                                | 950                                                                               | 815                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 20                                                                                | 150                                                                               | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 351                                                                               | 1700                                                                              | 1700                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.06                                                                              | 0.56                                                                              | 0.48                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 1.4                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 15.9                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 15.9                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 61.2%                                                                             | ICU Level of Service                                                              |                                                                                   | B                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

# Queues

## 12: Dixie Road & Old School Road

Future Background 2028 (12489) AM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 60                                                                                | 340                                                                               | 75                                                                                | 165                                                                               | 145                                                                               | 45                                                                                | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| Future Volume (vph)    | 60                                                                                | 340                                                                               | 75                                                                                | 165                                                                               | 145                                                                               | 45                                                                                | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| Lane Group Flow (vph)  | 60                                                                                | 340                                                                               | 75                                                                                | 165                                                                               | 155                                                                               | 45                                                                                | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| Turn Type              | Perm                                                                              | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 4                                                                                 | 3                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 9.5                                                                               | 31.5                                                                              | 31.5                                                                              | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                |
| Total Split (s)        | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 20.0                                                                              | 59.0                                                                              | 61.0                                                                              | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                |
| Total Split (%)        | 32.5%                                                                             | 32.5%                                                                             | 32.5%                                                                             | 16.7%                                                                             | 49.2%                                                                             | 50.8%                                                                             | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               |
| Yellow Time (s)        | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 1.0                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               | Lag                                                                               | Lag                                                                               | Lag                                                                               | Lead                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Min                                                                             | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               |
| v/c Ratio              | 0.22                                                                              | 0.81                                                                              | 0.20                                                                              | 0.56                                                                              | 0.24                                                                              | 0.24                                                                              | 0.22                                                                                | 0.07                                                                                | 0.10                                                                                | 0.56                                                                                | 0.20                                                                                |
| Control Delay          | 38.2                                                                              | 58.5                                                                              | 8.6                                                                               | 29.7                                                                              | 7.8                                                                               | 21.8                                                                              | 15.9                                                                                | 6.6                                                                                 | 17.3                                                                                | 23.5                                                                                | 3.2                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 38.2                                                                              | 58.5                                                                              | 8.6                                                                               | 29.7                                                                              | 7.8                                                                               | 21.8                                                                              | 15.9                                                                                | 6.6                                                                                 | 17.3                                                                                | 23.5                                                                                | 3.2                                                                                 |
| Queue Length 50th (m)  | 12.3                                                                              | 80.4                                                                              | 0.0                                                                               | 25.3                                                                              | 4.3                                                                               | 5.4                                                                               | 23.8                                                                                | 1.5                                                                                 | 7.1                                                                                 | 88.2                                                                                | 0.0                                                                                 |
| Queue Length 95th (m)  | 22.8                                                                              | 105.2                                                                             | 11.6                                                                              | 55.6                                                                              | 52.0                                                                              | m14.1                                                                             | 54.5                                                                                | m8.1                                                                                | 17.8                                                                                | 148.2                                                                               | 13.5                                                                                |
| Internal Link Dist (m) |                                                                                   | 371.4                                                                             |                                                                                   |                                                                                   | 41.8                                                                              |                                                                                   | 216.1                                                                               |                                                                                     |                                                                                     | 261.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 75.0                                                                              |                                                                                   | 75.0                                                                              | 65.0                                                                              |                                                                                   | 75.0                                                                              |                                                                                     | 50.0                                                                                | 75.0                                                                                |                                                                                     | 75.0                                                                                |
| Base Capacity (vph)    | 330                                                                               | 522                                                                               | 456                                                                               | 335                                                                               | 790                                                                               | 185                                                                               | 949                                                                                 | 843                                                                                 | 606                                                                                 | 985                                                                                 | 932                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.18                                                                              | 0.65                                                                              | 0.16                                                                              | 0.49                                                                              | 0.20                                                                              | 0.24                                                                              | 0.22                                                                                | 0.07                                                                                | 0.10                                                                                | 0.56                                                                                | 0.20                                                                                |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

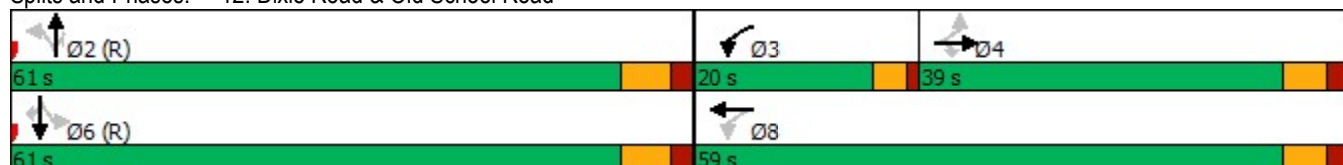
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Dixie Road & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 12: Dixie Road & Old School Road

Future Background 2028 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |   |  |  |  |  |  |
| Traffic Volume (vph)              | 60                                                                                | 340                                                                               | 75                                                                                | 165                                                                               | 145                                                                               | 10                                                                                | 45                                                                                  | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| Future Volume (vph)               | 60                                                                                | 340                                                                               | 75                                                                                | 165                                                                               | 145                                                                               | 10                                                                                | 45                                                                                  | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1733                                                                              | 1902                                                                              | 1465                                                                              | 1785                                                                              | 1790                                                                              |                                                                                   | 1008                                                                                | 1779                                                                                | 1521                                                                                | 1733                                                                                | 1847                                                                                | 1581                                                                                |
| Flt Permitted                     | 0.66                                                                              | 1.00                                                                              | 1.00                                                                              | 0.21                                                                              | 1.00                                                                              |                                                                                   | 0.33                                                                                | 1.00                                                                                | 1.00                                                                                | 0.62                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1201                                                                              | 1902                                                                              | 1465                                                                              | 391                                                                               | 1790                                                                              |                                                                                   | 347                                                                                 | 1779                                                                                | 1521                                                                                | 1135                                                                                | 1847                                                                                | 1581                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 60                                                                                | 340                                                                               | 75                                                                                | 165                                                                               | 145                                                                               | 10                                                                                | 45                                                                                  | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 58                                                                                | 0                                                                                 | 3                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 26                                                                                  | 0                                                                                   | 0                                                                                   | 89                                                                                  |
| Lane Group Flow (vph)             | 60                                                                                | 340                                                                               | 17                                                                                | 165                                                                               | 152                                                                               | 0                                                                                 | 45                                                                                  | 205                                                                                 | 29                                                                                  | 60                                                                                  | 550                                                                                 | 101                                                                                 |
| Heavy Vehicles (%)                | 3%                                                                                | 1%                                                                                | 9%                                                                                | 0%                                                                                | 6%                                                                                | 10%                                                                               | 77%                                                                                 | 8%                                                                                  | 5%                                                                                  | 3%                                                                                  | 4%                                                                                  | 1%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 26.7                                                                              | 26.7                                                                              | 26.7                                                                              | 43.3                                                                              | 43.3                                                                              |                                                                                   | 63.7                                                                                | 63.7                                                                                | 63.7                                                                                | 63.7                                                                                | 63.7                                                                                | 63.7                                                                                |
| Effective Green, g (s)            | 26.7                                                                              | 26.7                                                                              | 26.7                                                                              | 43.3                                                                              | 43.3                                                                              |                                                                                   | 63.7                                                                                | 63.7                                                                                | 63.7                                                                                | 63.7                                                                                | 63.7                                                                                | 63.7                                                                                |
| Actuated g/C Ratio                | 0.22                                                                              | 0.22                                                                              | 0.22                                                                              | 0.36                                                                              | 0.36                                                                              |                                                                                   | 0.53                                                                                | 0.53                                                                                | 0.53                                                                                | 0.53                                                                                | 0.53                                                                                | 0.53                                                                                |
| Clearance Time (s)                | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 267                                                                               | 423                                                                               | 325                                                                               | 287                                                                               | 645                                                                               |                                                                                   | 184                                                                                 | 944                                                                                 | 807                                                                                 | 602                                                                                 | 980                                                                                 | 839                                                                                 |
| v/s Ratio Prot                    |                                                                                   | c0.18                                                                             |                                                                                   | c0.06                                                                             | 0.09                                                                              |                                                                                   |                                                                                     | 0.12                                                                                |                                                                                     |                                                                                     | c0.30                                                                               |                                                                                     |
| v/s Ratio Perm                    | 0.05                                                                              |                                                                                   | 0.01                                                                              | 0.15                                                                              |                                                                                   |                                                                                   | 0.13                                                                                |                                                                                     | 0.02                                                                                | 0.05                                                                                |                                                                                     | 0.06                                                                                |
| v/c Ratio                         | 0.22                                                                              | 0.80                                                                              | 0.05                                                                              | 0.57                                                                              | 0.24                                                                              |                                                                                   | 0.24                                                                                | 0.22                                                                                | 0.04                                                                                | 0.10                                                                                | 0.56                                                                                | 0.12                                                                                |
| Uniform Delay, d1                 | 38.2                                                                              | 44.2                                                                              | 36.7                                                                              | 28.8                                                                              | 26.8                                                                              |                                                                                   | 15.2                                                                                | 14.9                                                                                | 13.5                                                                                | 13.9                                                                                | 18.8                                                                                | 14.1                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.94                                                                              | 0.28                                                                              |                                                                                   | 0.95                                                                                | 0.91                                                                                | 2.04                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 0.4                                                                               | 10.6                                                                              | 0.1                                                                               | 2.8                                                                               | 0.2                                                                               |                                                                                   | 2.6                                                                                 | 0.4                                                                                 | 0.1                                                                                 | 0.3                                                                                 | 2.3                                                                                 | 0.3                                                                                 |
| Delay (s)                         | 38.6                                                                              | 54.8                                                                              | 36.8                                                                              | 29.8                                                                              | 7.8                                                                               |                                                                                   | 17.1                                                                                | 14.1                                                                                | 27.5                                                                                | 14.3                                                                                | 21.1                                                                                | 14.4                                                                                |
| Level of Service                  | D                                                                                 | D                                                                                 | D                                                                                 | C                                                                                 | A                                                                                 |                                                                                   | B                                                                                   | B                                                                                   | C                                                                                   | B                                                                                   | C                                                                                   | B                                                                                   |
| Approach Delay (s)                |                                                                                   | 49.9                                                                              |                                                                                   |                                                                                   | 19.1                                                                              |                                                                                   |                                                                                     | 16.9                                                                                |                                                                                     |                                                                                     | 19.0                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            | 26.4                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                   |                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio | 0.63                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 17.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization | 79.7%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# HCM Unsignalized Intersection Capacity Analysis

## 13: 12861 Site Access 2 & Old School Road

Future Background 2028 (12489) AM Peak Hour

|                                   |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |     |  |  |  |  |  |
| Movement                          | EBT                                                                                  | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               | ↑↑  |                                                                                   |                                                                                   | ↑↑                                                                                |                                                                                   |  |
| Traffic Volume (veh/h)            | 410                                                                                  | 40                                                                                | 0                                                                                 | 325                                                                               | 0                                                                                 | 5                                                                                 |
| Future Volume (Veh/h)             | 410                                                                                  | 40                                                                                | 0                                                                                 | 325                                                                               | 0                                                                                 | 5                                                                                 |
| Sign Control                      | Free                                                                                 |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                   |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 1.00                                                                                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 410                                                                                  | 40                                                                                | 0                                                                                 | 325                                                                               | 0                                                                                 | 5                                                                                 |
| Pedestrians                       |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       | None                                                                                 |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               | 66                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                      |                                                                                   |                                                                                   | 450                                                                               | 592                                                                               | 225                                                                               |
| vC1, stage 1 conf vol             |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                      |                                                                                   |                                                                                   | 450                                                                               | 592                                                                               | 225                                                                               |
| tC, single (s)                    |                                                                                      |                                                                                   |                                                                                   | 4.1                                                                               | 6.8                                                                               | 6.9                                                                               |
| tC, 2 stage (s)                   |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                      |                                                                                   |                                                                                   | 2.2                                                                               | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                      |                                                                                   |                                                                                   | 100                                                                               | 100                                                                               | 99                                                                                |
| cM capacity (veh/h)               |                                                                                      |                                                                                   |                                                                                   | 1121                                                                              | 442                                                                               | 784                                                                               |
| Direction, Lane #                 | EB 1                                                                                 | EB 2                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              |                                                                                   |
| Volume Total                      | 273                                                                                  | 177                                                                               | 162                                                                               | 162                                                                               | 5                                                                                 |                                                                                   |
| Volume Left                       | 0                                                                                    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |
| Volume Right                      | 0                                                                                    | 40                                                                                | 0                                                                                 | 0                                                                                 | 5                                                                                 |                                                                                   |
| cSH                               | 1700                                                                                 | 1700                                                                              | 1700                                                                              | 1700                                                                              | 784                                                                               |                                                                                   |
| Volume to Capacity                | 0.16                                                                                 | 0.10                                                                              | 0.10                                                                              | 0.10                                                                              | 0.01                                                                              |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                                  | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.2                                                                               |                                                                                   |
| Control Delay (s)                 | 0.0                                                                                  | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 9.6                                                                               |                                                                                   |
| Lane LOS                          |                                                                                      |                                                                                   |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
| Approach Delay (s)                | 0.0                                                                                  |                                                                                   | 0.0                                                                               |                                                                                   | 9.6                                                                               |                                                                                   |
| Approach LOS                      |                                                                                      |                                                                                   |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
| Intersection Summary              |                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                      |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                      |                                                                                   | 22.6%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   |
|                                   |                                                                                      |                                                                                   | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Analysis Period (min)             |                                                                                      |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

### 14: 12861 Site Access 3 & Old School Road

Future Background 2028 (12489) AM Peak Hour

|                        | →     | ↘     | ↙      | ←     | ↖     |
|------------------------|-------|-------|--------|-------|-------|
| Lane Group             | EBT   | EBR   | WBL    | WBT   | NBL   |
| Lane Configurations    | ↑↑    | ↑     | ↘      | ↑↑    | ↘     |
| Traffic Volume (vph)   | 410   | 5     | 30     | 260   | 65    |
| Future Volume (vph)    | 410   | 5     | 30     | 260   | 65    |
| Lane Group Flow (vph)  | 410   | 5     | 30     | 260   | 70    |
| Turn Type              | NA    | Perm  | custom | NA    | Prot  |
| Protected Phases       | 4     |       |        |       | 2     |
| Permitted Phases       |       | 4     | 8      | 8     |       |
| Detector Phase         | 4     | 4     | 8      | 8     | 2     |
| Switch Phase           |       |       |        |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0    | 5.0   | 5.0   |
| Minimum Split (s)      | 28.5  | 28.5  | 31.5   | 31.5  | 31.5  |
| Total Split (s)        | 60.0  | 60.0  | 60.0   | 60.0  | 60.0  |
| Total Split (%)        | 50.0% | 50.0% | 50.0%  | 50.0% | 50.0% |
| Yellow Time (s)        | 4.5   | 4.5   | 4.5    | 4.5   | 4.0   |
| All-Red Time (s)       | 2.0   | 2.0   | 2.0    | 2.0   | 2.5   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5    | 6.5   | 6.5   |
| Lead/Lag               |       |       |        |       |       |
| Lead-Lag Optimize?     |       |       |        |       |       |
| Recall Mode            | None  | None  | None   | None  | C-Min |
| v/c Ratio              | 0.70  | 0.02  | 0.32   | 0.45  | 0.05  |
| Control Delay          | 42.0  | 13.0  | 52.3   | 47.4  | 5.0   |
| Queue Delay            | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   |
| Total Delay            | 42.0  | 13.0  | 52.3   | 47.4  | 5.0   |
| Queue Length 50th (m)  | 56.2  | 0.7   | 6.7    | 31.0  | 4.0   |
| Queue Length 95th (m)  | 68.7  | m0.9  | 16.1   | 42.6  | 9.5   |
| Internal Link Dist (m) | 433.3 |       |        | 157.0 | 183.7 |
| Turn Bay Length (m)    |       | 50.0  | 95.0   |       |       |
| Base Capacity (vph)    | 1627  | 714   | 267    | 1627  | 1301  |
| Starvation Cap Reductn | 0     | 0     | 0      | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0      | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0      | 0     | 0     |
| Reduced v/c Ratio      | 0.25  | 0.01  | 0.11   | 0.16  | 0.05  |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

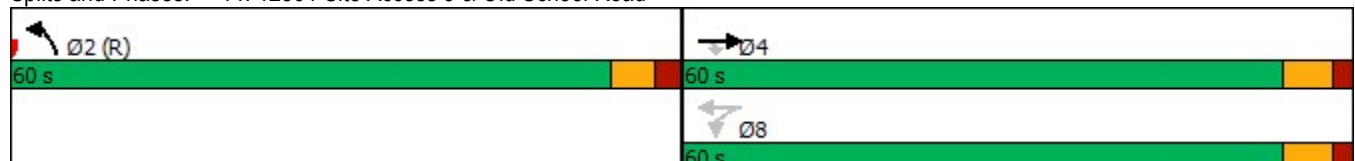
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: 12861 Site Access 3 & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 14: 12861 Site Access 3 & Old School Road

Future Background 2028 (12489) AM Peak Hour

|                                   | →     | ↘    | ↙      | ←    | ↖                         | ↗    |
|-----------------------------------|-------|------|--------|------|---------------------------|------|
| Movement                          | EBT   | EBR  | WBL    | WBT  | NBL                       | NBR  |
| Lane Configurations               | ↑↑    | ↑    | ↓      | ↑↑   | ↓                         |      |
| Traffic Volume (vph)              | 410   | 5    | 30     | 260  | 65                        | 5    |
| Future Volume (vph)               | 410   | 5    | 30     | 260  | 65                        | 5    |
| Ideal Flow (vphpl)                | 1900  | 1900 | 1900   | 1900 | 1900                      | 1900 |
| Lane Width                        | 3.7   | 3.5  | 3.5    | 3.7  | 3.5                       | 3.5  |
| Total Lost time (s)               | 6.5   | 6.5  | 6.5    | 6.5  | 6.5                       |      |
| Lane Util. Factor                 | 0.95  | 1.00 | 1.00   | 0.95 | 1.00                      |      |
| Frt                               | 1.00  | 0.85 | 1.00   | 1.00 | 0.99                      |      |
| Flt Protected                     | 1.00  | 1.00 | 0.95   | 1.00 | 0.96                      |      |
| Satd. Flow (prot)                 | 3650  | 1597 | 1785   | 3650 | 1778                      |      |
| Flt Permitted                     | 1.00  | 1.00 | 0.32   | 1.00 | 0.96                      |      |
| Satd. Flow (perm)                 | 3650  | 1597 | 599    | 3650 | 1778                      |      |
| Peak-hour factor, PHF             | 1.00  | 1.00 | 1.00   | 1.00 | 1.00                      | 1.00 |
| Adj. Flow (vph)                   | 410   | 5    | 30     | 260  | 65                        | 5    |
| RTOR Reduction (vph)              | 0     | 4    | 0      | 0    | 1                         | 0    |
| Lane Group Flow (vph)             | 410   | 1    | 30     | 260  | 69                        | 0    |
| Heavy Vehicles (%)                | 0%    | 0%   | 0%     | 0%   | 0%                        | 0%   |
| Turn Type                         | NA    | Perm | custom | NA   | Prot                      |      |
| Protected Phases                  | 4     |      |        |      | 2                         |      |
| Permitted Phases                  |       | 4    | 8      | 8    |                           |      |
| Actuated Green, G (s)             | 19.2  | 19.2 | 19.2   | 19.2 | 87.8                      |      |
| Effective Green, g (s)            | 19.2  | 19.2 | 19.2   | 19.2 | 87.8                      |      |
| Actuated g/C Ratio                | 0.16  | 0.16 | 0.16   | 0.16 | 0.73                      |      |
| Clearance Time (s)                | 6.5   | 6.5  | 6.5    | 6.5  | 6.5                       |      |
| Vehicle Extension (s)             | 3.0   | 3.0  | 3.0    | 3.0  | 3.0                       |      |
| Lane Grp Cap (vph)                | 584   | 255  | 95     | 584  | 1300                      |      |
| v/s Ratio Prot                    | c0.11 |      |        |      | c0.04                     |      |
| v/s Ratio Perm                    |       | 0.00 | 0.05   | 0.07 |                           |      |
| v/c Ratio                         | 0.70  | 0.00 | 0.32   | 0.45 | 0.05                      |      |
| Uniform Delay, d1                 | 47.7  | 42.4 | 44.6   | 45.6 | 4.5                       |      |
| Progression Factor                | 0.76  | 0.55 | 1.00   | 1.00 | 1.00                      |      |
| Incremental Delay, d2             | 3.4   | 0.0  | 1.9    | 0.5  | 0.1                       |      |
| Delay (s)                         | 39.6  | 23.3 | 46.5   | 46.1 | 4.6                       |      |
| Level of Service                  | D     | C    | D      | D    | A                         |      |
| Approach Delay (s)                | 39.4  |      |        | 46.2 | 4.6                       |      |
| Approach LOS                      | D     |      |        | D    | A                         |      |
| <b>Intersection Summary</b>       |       |      |        |      |                           |      |
| HCM 2000 Control Delay            |       |      | 38.8   |      | HCM 2000 Level of Service | D    |
| HCM 2000 Volume to Capacity ratio |       |      | 0.17   |      |                           |      |
| Actuated Cycle Length (s)         |       |      | 120.0  |      | Sum of lost time (s)      | 13.0 |
| Intersection Capacity Utilization |       |      | 35.9%  |      | ICU Level of Service      | A    |
| Analysis Period (min)             |       |      | 15     |      |                           |      |
| c Critical Lane Group             |       |      |        |      |                           |      |

# HCM Unsignalized Intersection Capacity Analysis

## 15: Bramalea Road & Old School Road

Future Background 2028 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 20                                                                                | 305                                                                               | 85                                                                                | 25                                                                                | 190                                                                               | 0                                                                                 | 40                                                                                 | 75                                                                                  | 20                                                                                  | 5                                                                                   | 155                                                                                 | 60                                                                                  |
| Future Volume (vph)               | 20                                                                                | 305                                                                               | 85                                                                                | 25                                                                                | 190                                                                               | 0                                                                                 | 40                                                                                 | 75                                                                                  | 20                                                                                  | 5                                                                                   | 155                                                                                 | 60                                                                                  |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Hourly flow rate (vph)            | 20                                                                                | 305                                                                               | 85                                                                                | 25                                                                                | 190                                                                               | 0                                                                                 | 40                                                                                 | 75                                                                                  | 20                                                                                  | 5                                                                                   | 155                                                                                 | 60                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 410                                                                               | 215                                                                               | 135                                                                               | 220                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 20                                                                                | 25                                                                                | 40                                                                                | 5                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 85                                                                                | 0                                                                                 | 20                                                                                | 60                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | -0.08                                                                             | 0.09                                                                              | 0.07                                                                              | -0.13                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 5.3                                                                               | 5.8                                                                               | 6.2                                                                               | 5.8                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.60                                                                              | 0.34                                                                              | 0.23                                                                              | 0.35                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 649                                                                               | 572                                                                               | 506                                                                               | 559                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 15.9                                                                              | 11.7                                                                              | 11.0                                                                              | 11.9                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 15.9                                                                              | 11.7                                                                              | 11.0                                                                              | 11.9                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   |                                                                                   | 13.4                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 54.6%                                                                             | ICU Level of Service                                                              | A                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Queues

## 1: Dixie Road & Mayfield Road

Future Background 2028 (12489) PM Peak Hour

|                        |                                                                                    |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |                                                                                      |  |  |                                                                                      |  |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                                                                                                                 | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                | NBT                                                                                                                                                                     | NBR                                                                                 | SBL                                                                                 | SBT                                                                                                                                                                     | SBR                                                                                 |
| Lane Configurations    |   |    |  |  |    |  |  |   |  |  |   |  |
| Traffic Volume (vph)   | 555                                                                                                                                                                 | 1355                                                                                                                                                                                                                                                  | 180                                                                               | 60                                                                                | 1350                                                                                                                                                                                                                                                  | 105                                                                               | 210                                                                                | 245                                                                                                                                                                     | 60                                                                                  | 165                                                                                 | 275                                                                                                                                                                     | 1065                                                                                |
| Future Volume (vph)    | 555                                                                                                                                                                 | 1355                                                                                                                                                                                                                                                  | 180                                                                               | 60                                                                                | 1350                                                                                                                                                                                                                                                  | 105                                                                               | 210                                                                                | 245                                                                                                                                                                     | 60                                                                                  | 165                                                                                 | 275                                                                                                                                                                     | 1065                                                                                |
| Lane Group Flow (vph)  | 555                                                                                                                                                                 | 1355                                                                                                                                                                                                                                                  | 180                                                                               | 60                                                                                | 1350                                                                                                                                                                                                                                                  | 105                                                                               | 210                                                                                | 245                                                                                                                                                                     | 60                                                                                  | 165                                                                                 | 275                                                                                                                                                                     | 1065                                                                                |
| Turn Type              | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | custom                                                                            | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | custom                                                                            | pm+pt                                                                              | NA                                                                                                                                                                      | custom                                                                              | pm+pt                                                                               | NA                                                                                                                                                                      | custom                                                                              |
| Protected Phases       | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     | 7                                                                                 | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 3                                                                                 | 7                                                                                  | 4                                                                                                                                                                       | 1                                                                                   | 3                                                                                   | 8                                                                                                                                                                       | 5                                                                                   |
| Permitted Phases       |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 2 4                                                                               | 6                                                                                 |                                                                                                                                                                                                                                                       | 6 8                                                                               | 4                                                                                  |                                                                                                                                                                         | 4 6                                                                                 | 8                                                                                   |                                                                                                                                                                         | 8 2                                                                                 |
| Detector Phase         | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     | 7                                                                                 | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 3                                                                                 | 7                                                                                  | 4                                                                                                                                                                       | 1                                                                                   | 3                                                                                   | 8                                                                                                                                                                       | 5                                                                                   |
| Switch Phase           |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                    |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                                                                                                                 | 8.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                               | 8.0                                                                                                                                                                                                                                                   | 5.0                                                                               | 5.0                                                                                | 8.0                                                                                                                                                                     | 5.0                                                                                 | 5.0                                                                                 | 8.0                                                                                                                                                                     | 5.0                                                                                 |
| Minimum Split (s)      | 9.5                                                                                                                                                                 | 44.9                                                                                                                                                                                                                                                  | 9.5                                                                               | 9.5                                                                               | 44.9                                                                                                                                                                                                                                                  | 9.5                                                                               | 9.5                                                                                | 47.9                                                                                                                                                                    | 9.5                                                                                 | 9.5                                                                                 | 47.9                                                                                                                                                                    | 9.5                                                                                 |
| Total Split (s)        | 30.0                                                                                                                                                                | 65.4                                                                                                                                                                                                                                                  | 12.1                                                                              | 9.6                                                                               | 45.0                                                                                                                                                                                                                                                  | 12.1                                                                              | 12.1                                                                               | 47.9                                                                                                                                                                    | 9.6                                                                                 | 12.1                                                                                | 47.9                                                                                                                                                                    | 30.0                                                                                |
| Total Split (%)        | 22.2%                                                                                                                                                               | 48.4%                                                                                                                                                                                                                                                 | 9.0%                                                                              | 7.1%                                                                              | 33.3%                                                                                                                                                                                                                                                 | 9.0%                                                                              | 9.0%                                                                               | 35.5%                                                                                                                                                                   | 7.1%                                                                                | 9.0%                                                                                | 35.5%                                                                                                                                                                   | 22.2%                                                                               |
| Yellow Time (s)        | 3.5                                                                                                                                                                 | 4.6                                                                                                                                                                                                                                                   | 3.5                                                                               | 3.5                                                                               | 4.6                                                                                                                                                                                                                                                   | 3.5                                                                               | 3.5                                                                                | 4.6                                                                                                                                                                     | 3.5                                                                                 | 3.5                                                                                 | 4.6                                                                                                                                                                     | 3.5                                                                                 |
| All-Red Time (s)       | 1.0                                                                                                                                                                 | 2.3                                                                                                                                                                                                                                                   | 1.0                                                                               | 1.0                                                                               | 2.3                                                                                                                                                                                                                                                   | 1.0                                                                               | 1.0                                                                                | 2.3                                                                                                                                                                     | 1.0                                                                                 | 1.0                                                                                 | 2.3                                                                                                                                                                     | 1.0                                                                                 |
| Lost Time Adjust (s)   | -1.0                                                                                                                                                                | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | -1.0                                                                              | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | -1.0                                                                               | 0.0                                                                                                                                                                     | 0.0                                                                                 | -1.0                                                                                | 0.0                                                                                                                                                                     | 0.0                                                                                 |
| Total Lost Time (s)    | 3.5                                                                                                                                                                 | 6.9                                                                                                                                                                                                                                                   | 4.5                                                                               | 3.5                                                                               | 6.9                                                                                                                                                                                                                                                   | 4.5                                                                               | 3.5                                                                                | 6.9                                                                                                                                                                     | 4.5                                                                                 | 3.5                                                                                 | 6.9                                                                                                                                                                     | 4.5                                                                                 |
| Lead/Lag               | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   | Lead                                                                              | Lead                                                                              | Lag                                                                                                                                                                                                                                                   | Lead                                                                              | Lead                                                                               | Lag                                                                                                                                                                     | Lead                                                                                | Lead                                                                                | Lag                                                                                                                                                                     | Lead                                                                                |
| Lead-Lag Optimize?     | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   | Yes                                                                               | Yes                                                                               | Yes                                                                                                                                                                                                                                                   | Yes                                                                               | Yes                                                                                | Yes                                                                                                                                                                     | Yes                                                                                 | Yes                                                                                 | Yes                                                                                                                                                                     | Yes                                                                                 |
| Recall Mode            | None                                                                                                                                                                | C-Min                                                                                                                                                                                                                                                 | None                                                                              | None                                                                              | C-Min                                                                                                                                                                                                                                                 | None                                                                              | None                                                                               | None                                                                                                                                                                    | None                                                                                | None                                                                                | None                                                                                                                                                                    | None                                                                                |
| v/c Ratio              | 0.64                                                                                                                                                                | 0.47                                                                                                                                                                                                                                                  | 0.14                                                                              | 0.27                                                                              | 0.84                                                                                                                                                                                                                                                  | 0.12                                                                              | 0.92                                                                               | 0.58                                                                                                                                                                    | 0.08                                                                                | 0.75                                                                                | 0.66                                                                                                                                                                    | 0.85                                                                                |
| Control Delay          | 41.4                                                                                                                                                                | 15.1                                                                                                                                                                                                                                                  | 0.4                                                                               | 17.5                                                                              | 48.4                                                                                                                                                                                                                                                  | 7.0                                                                               | 89.8                                                                               | 61.7                                                                                                                                                                    | 2.3                                                                                 | 67.2                                                                                | 64.5                                                                                                                                                                    | 11.5                                                                                |
| Queue Delay            | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                                                                                                     | 0.0                                                                                 |
| Total Delay            | 41.4                                                                                                                                                                | 15.1                                                                                                                                                                                                                                                  | 0.4                                                                               | 17.5                                                                              | 48.4                                                                                                                                                                                                                                                  | 7.0                                                                               | 89.8                                                                               | 61.7                                                                                                                                                                    | 2.3                                                                                 | 67.2                                                                                | 64.5                                                                                                                                                                    | 11.5                                                                                |
| Queue Length 50th (m)  | 70.2                                                                                                                                                                | 72.9                                                                                                                                                                                                                                                  | 0.0                                                                               | 4.5                                                                               | 123.4                                                                                                                                                                                                                                                 | 5.8                                                                               | 51.9                                                                               | 34.7                                                                                                                                                                    | 0.0                                                                                 | 40.1                                                                                | 39.4                                                                                                                                                                    | 51.8                                                                                |
| Queue Length 95th (m)  | 86.1                                                                                                                                                                | 94.7                                                                                                                                                                                                                                                  | 2.3                                                                               | 9.8                                                                               | #171.6                                                                                                                                                                                                                                                | 15.1                                                                              | #90.7                                                                              | 47.8                                                                                                                                                                    | 4.5                                                                                 | 61.0                                                                                | 53.2                                                                                                                                                                    | 104.8                                                                               |
| Internal Link Dist (m) |                                                                                                                                                                     | 980.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                   | 272.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                    | 844.0                                                                                                                                                                   |                                                                                     |                                                                                     | 481.5                                                                                                                                                                   |                                                                                     |
| Turn Bay Length (m)    | 115.0                                                                                                                                                               |                                                                                                                                                                                                                                                       | 75.0                                                                              | 115.0                                                                             |                                                                                                                                                                                                                                                       | 110.0                                                                             | 115.0                                                                              |                                                                                                                                                                         | 65.0                                                                                | 115.0                                                                               |                                                                                                                                                                         | 135.0                                                                               |
| Base Capacity (vph)    | 873                                                                                                                                                                 | 2911                                                                                                                                                                                                                                                  | 1264                                                                              | 226                                                                               | 1603                                                                                                                                                                                                                                                  | 848                                                                               | 229                                                                                | 1097                                                                                                                                                                    | 712                                                                                 | 220                                                                                 | 1086                                                                                                                                                                    | 1251                                                                                |
| Starvation Cap Reductn | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                   |
| Reduced v/c Ratio      | 0.64                                                                                                                                                                | 0.47                                                                                                                                                                                                                                                  | 0.14                                                                              | 0.27                                                                              | 0.84                                                                                                                                                                                                                                                  | 0.12                                                                              | 0.92                                                                               | 0.22                                                                                                                                                                    | 0.08                                                                                | 0.75                                                                                | 0.25                                                                                                                                                                    | 0.85                                                                                |

### Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

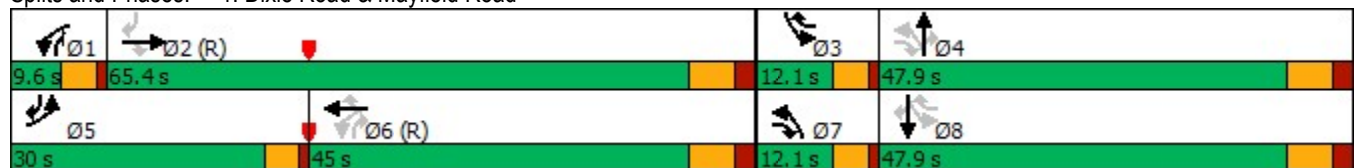
Natural Cycle: 135

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Dixie Road & Mayfield Road



# HCM Signalized Intersection Capacity Analysis

## 1: Dixie Road & Mayfield Road

Future Background 2028 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)              | 555                                                                               | 1355                                                                              | 180                                                                               | 60                                                                                | 1350                                                                              | 105                                                                               | 210                                                                                 | 245                                                                                 | 60                                                                                  | 165                                                                                 | 275                                                                                 | 1065                                                                                |
| Future Volume (vph)               | 555                                                                               | 1355                                                                              | 180                                                                               | 60                                                                                | 1350                                                                              | 105                                                                               | 210                                                                                 | 245                                                                                 | 60                                                                                  | 165                                                                                 | 275                                                                                 | 1065                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Lane Util. Factor                 | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                | 1.00                                                                                | 1.00                                                                                | 0.99                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 2584                                                                              | 4683                                                                              | 1475                                                                              | 1767                                                                              | 4902                                                                              | 1377                                                                              | 1731                                                                                | 3614                                                                                | 1289                                                                                | 1563                                                                                | 3579                                                                                | 1424                                                                                |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.19                                                                              | 1.00                                                                              | 1.00                                                                              | 0.46                                                                                | 1.00                                                                                | 1.00                                                                                | 0.52                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 2584                                                                              | 4683                                                                              | 1475                                                                              | 352                                                                               | 4902                                                                              | 1377                                                                              | 839                                                                                 | 3614                                                                                | 1289                                                                                | 852                                                                                 | 3579                                                                                | 1424                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 555                                                                               | 1355                                                                              | 180                                                                               | 60                                                                                | 1350                                                                              | 105                                                                               | 210                                                                                 | 245                                                                                 | 60                                                                                  | 165                                                                                 | 275                                                                                 | 1065                                                                                |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 38                                                                                | 0                                                                                 | 0                                                                                 | 24                                                                                | 0                                                                                   | 0                                                                                   | 31                                                                                  | 0                                                                                   | 0                                                                                   | 61                                                                                  |
| Lane Group Flow (vph)             | 555                                                                               | 1355                                                                              | 142                                                                               | 60                                                                                | 1350                                                                              | 81                                                                                | 210                                                                                 | 245                                                                                 | 29                                                                                  | 165                                                                                 | 275                                                                                 | 1004                                                                                |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   | 10                                                                                | 10                                                                                |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 34%                                                                               | 12%                                                                               | 6%                                                                                | 1%                                                                                | 7%                                                                                | 16%                                                                               | 3%                                                                                  | 1%                                                                                  | 22%                                                                                 | 14%                                                                                 | 2%                                                                                  | 11%                                                                                 |
| Turn Type                         | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                               | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases                  | 5                                                                                 | 2                                                                                 | 7                                                                                 | 1                                                                                 | 6                                                                                 | 3                                                                                 | 7                                                                                   | 4                                                                                   | 1                                                                                   | 3                                                                                   | 8                                                                                   | 5                                                                                   |
| Permitted Phases                  |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                   |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Actuated Green, G (s)             | 44.6                                                                              | 83.0                                                                              | 106.4                                                                             | 50.0                                                                              | 44.2                                                                              | 67.6                                                                              | 23.4                                                                                | 15.8                                                                                | 65.8                                                                                | 23.4                                                                                | 15.8                                                                                | 109.1                                                                               |
| Effective Green, g (s)            | 45.6                                                                              | 83.0                                                                              | 106.4                                                                             | 52.0                                                                              | 44.2                                                                              | 67.6                                                                              | 25.4                                                                                | 15.8                                                                                | 65.8                                                                                | 25.4                                                                                | 15.8                                                                                | 109.1                                                                               |
| Actuated g/C Ratio                | 0.34                                                                              | 0.61                                                                              | 0.79                                                                              | 0.39                                                                              | 0.33                                                                              | 0.50                                                                              | 0.19                                                                                | 0.12                                                                                | 0.49                                                                                | 0.19                                                                                | 0.12                                                                                | 0.81                                                                                |
| Clearance Time (s)                | 4.5                                                                               | 6.9                                                                               | 4.5                                                                               | 4.5                                                                               | 6.9                                                                               | 4.5                                                                               | 4.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 872                                                                               | 2879                                                                              | 1211                                                                              | 206                                                                               | 1604                                                                              | 735                                                                               | 214                                                                                 | 422                                                                                 | 628                                                                                 | 205                                                                                 | 418                                                                                 | 1150                                                                                |
| v/s Ratio Prot                    | 0.21                                                                              | 0.29                                                                              | 0.01                                                                              | 0.01                                                                              | 0.28                                                                              | 0.01                                                                              | c0.06                                                                               | 0.07                                                                                | 0.00                                                                                | 0.05                                                                                | 0.08                                                                                | c0.29                                                                               |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.09                                                                              | 0.10                                                                              |                                                                                   | 0.05                                                                              | c0.12                                                                               |                                                                                     | 0.02                                                                                | 0.10                                                                                |                                                                                     | 0.42                                                                                |
| v/c Ratio                         | 0.64                                                                              | 0.47                                                                              | 0.12                                                                              | 0.29                                                                              | 0.84                                                                              | 0.11                                                                              | 0.98                                                                                | 0.58                                                                                | 0.05                                                                                | 0.80                                                                                | 0.66                                                                                | 0.87                                                                                |
| Uniform Delay, d1                 | 37.7                                                                              | 14.1                                                                              | 3.3                                                                               | 30.8                                                                              | 42.2                                                                              | 17.8                                                                              | 53.1                                                                                | 56.5                                                                                | 18.1                                                                                | 50.9                                                                                | 57.0                                                                                | 8.4                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 1.5                                                                               | 0.6                                                                               | 0.0                                                                               | 0.8                                                                               | 5.5                                                                               | 0.1                                                                               | 55.9                                                                                | 2.0                                                                                 | 0.0                                                                                 | 20.1                                                                                | 3.7                                                                                 | 7.5                                                                                 |
| Delay (s)                         | 39.2                                                                              | 14.6                                                                              | 3.4                                                                               | 31.6                                                                              | 47.7                                                                              | 17.9                                                                              | 109.0                                                                               | 58.5                                                                                | 18.2                                                                                | 71.0                                                                                | 60.7                                                                                | 15.9                                                                                |
| Level of Service                  | D                                                                                 | B                                                                                 | A                                                                                 | C                                                                                 | D                                                                                 | B                                                                                 | F                                                                                   | E                                                                                   | B                                                                                   | E                                                                                   | E                                                                                   | B                                                                                   |
| Approach Delay (s)                |                                                                                   | 20.2                                                                              |                                                                                   |                                                                                   | 45.0                                                                              |                                                                                   |                                                                                     | 74.4                                                                                |                                                                                     |                                                                                     | 30.2                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 34.5                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.95                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 135.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 117.0%                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Queues

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Future Background 2028 (12489) PM Peak Hour



| Lane Group             | EBL   | EBR   | WBL   | WBT   | NBL   | NBT   | SBL   | SBT   | SBR   |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations    |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)   | 45    | 105   | 70    | 0     | 35    | 820   | 5     | 1320  | 10    |
| Future Volume (vph)    | 45    | 105   | 70    | 0     | 35    | 820   | 5     | 1320  | 10    |
| Lane Group Flow (vph)  | 45    | 105   | 70    | 5     | 35    | 835   | 0     | 1325  | 10    |
| Turn Type              | Perm  | Perm  | Perm  | NA    | Perm  | NA    | Perm  | NA    | Perm  |
| Protected Phases       |       |       |       | 8     |       | 2     |       | 6     |       |
| Permitted Phases       | 4     | 4     | 8     |       | 2     |       | 6     |       | 6     |
| Detector Phase         | 4     | 4     | 8     | 8     | 2     | 2     | 6     | 6     | 6     |
| Switch Phase           |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)      | 39.0  | 39.0  | 39.0  | 39.0  | 31.0  | 31.0  | 31.0  | 31.0  | 31.0  |
| Total Split (s)        | 42.0  | 42.0  | 42.0  | 42.0  | 78.0  | 78.0  | 78.0  | 78.0  | 78.0  |
| Total Split (%)        | 35.0% | 35.0% | 35.0% | 35.0% | 65.0% | 65.0% | 65.0% | 65.0% | 65.0% |
| Yellow Time (s)        | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| All-Red Time (s)       | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   |       | 6.0   | 6.0   |
| Lead/Lag               |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?     |       |       |       |       |       |       |       |       |       |
| Recall Mode            | None  | None  | None  | None  | C-Max | C-Max | C-Max | C-Max | C-Max |
| v/c Ratio              | 0.30  | 0.49  | 0.59  | 0.01  | 0.15  | 0.35  |       | 0.53  | 0.01  |
| Control Delay          | 52.3  | 32.2  | 69.2  | 0.0   | 5.5   | 4.4   |       | 4.0   | 0.8   |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |
| Total Delay            | 52.3  | 32.2  | 69.2  | 0.0   | 5.5   | 4.4   |       | 4.0   | 0.8   |
| Queue Length 50th (m)  | 10.5  | 11.4  | 16.8  | 0.0   | 1.7   | 25.3  |       | 37.0  | 0.0   |
| Queue Length 95th (m)  | 21.4  | 28.0  | 31.3  | 0.0   | 6.0   | 43.2  |       | 62.9  | m0.0  |
| Internal Link Dist (m) |       |       |       | 96.6  |       | 481.5 |       | 358.1 |       |
| Turn Bay Length (m)    | 15.0  | 15.0  | 15.0  |       | 70.0  |       |       |       | 65.0  |
| Base Capacity (vph)    | 425   | 495   | 333   | 617   | 238   | 2399  |       | 2503  | 1230  |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Reduced v/c Ratio      | 0.11  | 0.21  | 0.21  | 0.01  | 0.15  | 0.35  |       | 0.53  | 0.01  |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

#### Splits and Phases: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3



# HCM Signalized Intersection Capacity Analysis

5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Future Background 2028 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |   |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)              | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 820                                                                                 | 15                                                                                  | 5                                                                                   | 1320                                                                                | 10                                                                                  |
| Future Volume (vph)               | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 820                                                                                 | 15                                                                                  | 5                                                                                   | 1320                                                                                | 10                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.97                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              |                                                                                   | 0.85                                                                              | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              |                                                                                   | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              |                                                                                   | 1521                                                                              | 1394                                                                              | 1633                                                                              |                                                                                   | 1536                                                                                | 3028                                                                                |                                                                                     |                                                                                     | 3319                                                                                | 1546                                                                                |
| Flt Permitted                     | 0.75                                                                              |                                                                                   | 1.00                                                                              | 0.76                                                                              | 1.00                                                                              |                                                                                   | 0.19                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1418                                                                              |                                                                                   | 1521                                                                              | 1111                                                                              | 1633                                                                              |                                                                                   | 300                                                                                 | 3028                                                                                |                                                                                     |                                                                                     | 3161                                                                                | 1546                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 820                                                                                 | 15                                                                                  | 5                                                                                   | 1320                                                                                | 10                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 50                                                                                | 0                                                                                 | 4                                                                                 | 0                                                                                 | 0                                                                                   | 1                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 2                                                                                   |
| Lane Group Flow (vph)             | 45                                                                                | 0                                                                                 | 55                                                                                | 70                                                                                | 1                                                                                 | 0                                                                                 | 35                                                                                  | 834                                                                                 | 0                                                                                   | 0                                                                                   | 1325                                                                                | 8                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 5%                                                                                | 28%                                                                               | 0%                                                                                | 0%                                                                                | 16%                                                                                 | 20%                                                                                 | 33%                                                                                 | 0%                                                                                  | 10%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 12.9                                                                              |                                                                                   | 12.9                                                                              | 12.9                                                                              | 12.9                                                                              |                                                                                   | 95.1                                                                                | 95.1                                                                                |                                                                                     |                                                                                     | 95.1                                                                                | 95.1                                                                                |
| Effective Green, g (s)            | 12.9                                                                              |                                                                                   | 12.9                                                                              | 12.9                                                                              | 12.9                                                                              |                                                                                   | 95.1                                                                                | 95.1                                                                                |                                                                                     |                                                                                     | 95.1                                                                                | 95.1                                                                                |
| Actuated g/C Ratio                | 0.11                                                                              |                                                                                   | 0.11                                                                              | 0.11                                                                              | 0.11                                                                              |                                                                                   | 0.79                                                                                | 0.79                                                                                |                                                                                     |                                                                                     | 0.79                                                                                | 0.79                                                                                |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 152                                                                               |                                                                                   | 163                                                                               | 119                                                                               | 175                                                                               |                                                                                   | 237                                                                                 | 2399                                                                                |                                                                                     |                                                                                     | 2505                                                                                | 1225                                                                                |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                     | 0.28                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    | 0.03                                                                              |                                                                                   | 0.04                                                                              | 0.06                                                                              |                                                                                   |                                                                                   | 0.12                                                                                |                                                                                     |                                                                                     |                                                                                     | 0.42                                                                                | 0.01                                                                                |
| v/c Ratio                         | 0.30                                                                              |                                                                                   | 0.34                                                                              | 0.59                                                                              | 0.00                                                                              |                                                                                   | 0.15                                                                                | 0.35                                                                                |                                                                                     |                                                                                     | 0.53                                                                                | 0.01                                                                                |
| Uniform Delay, d1                 | 49.4                                                                              |                                                                                   | 49.6                                                                              | 51.0                                                                              | 47.8                                                                              |                                                                                   | 2.9                                                                                 | 3.6                                                                                 |                                                                                     |                                                                                     | 4.4                                                                                 | 2.6                                                                                 |
| Progression Factor                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.71                                                                                | 2.33                                                                                |
| Incremental Delay, d2             | 1.1                                                                               |                                                                                   | 1.2                                                                               | 7.2                                                                               | 0.0                                                                               |                                                                                   | 1.3                                                                                 | 0.4                                                                                 |                                                                                     |                                                                                     | 0.4                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 50.5                                                                              |                                                                                   | 50.8                                                                              | 58.3                                                                              | 47.8                                                                              |                                                                                   | 4.2                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.6                                                                                 | 6.0                                                                                 |
| Level of Service                  | D                                                                                 |                                                                                   | D                                                                                 | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 50.7                                                                              |                                                                                   |                                                                                   | 57.6                                                                              |                                                                                   |                                                                                     | 4.0                                                                                 |                                                                                     |                                                                                     | 3.6                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 8.3                                                                               |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.54                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 63.1%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



## Queues

### 7: Dixie Road & UPS Facility Access/12173 West Access 1 Future Background 2028 (12489) PM Peak Hour



| Lane Group             | EBL   | WBR   | NBL   | NBT   | SBT    |
|------------------------|-------|-------|-------|-------|--------|
| Lane Configurations    |       |       |       |       |        |
| Traffic Volume (vph)   | 5     | 10    | 35    | 805   | 1355   |
| Future Volume (vph)    | 5     | 10    | 35    | 805   | 1355   |
| Lane Group Flow (vph)  | 5     | 10    | 0     | 845   | 1375   |
| Turn Type              | Perm  | Perm  | Perm  | NA    | NA     |
| Protected Phases       |       |       |       | 2     | 6      |
| Permitted Phases       | 4     | 8     | 2     |       |        |
| Detector Phase         | 4     | 8     | 2     | 2     | 6      |
| Switch Phase           |       |       |       |       |        |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0    |
| Minimum Split (s)      | 39.0  | 39.0  | 31.0  | 31.0  | 31.0   |
| Total Split (s)        | 39.0  | 39.0  | 81.0  | 81.0  | 81.0   |
| Total Split (%)        | 32.5% | 32.5% | 67.5% | 67.5% | 67.5%  |
| Yellow Time (s)        | 3.0   | 3.0   | 3.0   | 3.0   | 3.0    |
| All-Red Time (s)       | 3.0   | 3.0   | 3.0   | 3.0   | 3.0    |
| Lost Time Adjust (s)   | 0.0   | 0.0   |       | 0.0   | 0.0    |
| Total Lost Time (s)    | 6.0   | 6.0   |       | 6.0   | 6.0    |
| Lead/Lag               |       |       |       |       |        |
| Lead-Lag Optimize?     |       |       |       |       |        |
| Recall Mode            | None  | None  | C-Max | C-Max | C-Max  |
| v/c Ratio              | 0.06  | 0.04  |       | 0.63  | 0.82   |
| Control Delay          | 55.4  | 0.3   |       | 7.1   | 9.7    |
| Queue Delay            | 0.0   | 0.0   |       | 0.0   | 0.0    |
| Total Delay            | 55.4  | 0.3   |       | 7.1   | 9.7    |
| Queue Length 50th (m)  | 1.2   | 0.0   |       | 50.1  | 7.0    |
| Queue Length 95th (m)  | 5.6   | 0.0   |       | 116.9 | #413.4 |
| Internal Link Dist (m) |       |       |       | 358.1 | 696.2  |
| Turn Bay Length (m)    |       |       |       |       |        |
| Base Capacity (vph)    | 490   | 582   |       | 1338  | 1683   |
| Starvation Cap Reductn | 0     | 0     |       | 0     | 0      |
| Spillback Cap Reductn  | 0     | 0     |       | 0     | 0      |
| Storage Cap Reductn    | 0     | 0     |       | 0     | 0      |
| Reduced v/c Ratio      | 0.01  | 0.02  |       | 0.63  | 0.82   |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 7: Dixie Road & UPS Facility Access/12173 West Access 1



# HCM Signalized Intersection Capacity Analysis

7: Dixie Road & UPS Facility Access/12173 West Access 1 Future Background 2028 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |                                                                                     |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)              | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 805                                                                                 | 5                                                                                   | 0                                                                                   | 1355                                                                                | 20                                                                                  |
| Future Volume (vph)               | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 805                                                                                 | 5                                                                                   | 0                                                                                   | 1355                                                                                | 20                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                     | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                               | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.85                                                                              |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flt Protected                     | 0.95                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (prot)                 | 1785                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1597                                                                              |                                                                                     | 1562                                                                                |                                                                                     |                                                                                     | 1737                                                                                |                                                                                     |
| Flt Permitted                     | 0.95                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 0.88                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (perm)                 | 1785                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1597                                                                              |                                                                                     | 1381                                                                                |                                                                                     |                                                                                     | 1737                                                                                |                                                                                     |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 805                                                                                 | 5                                                                                   | 0                                                                                   | 1355                                                                                | 20                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 845                                                                                 | 0                                                                                   | 0                                                                                   | 1375                                                                                | 0                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 10                                                                                  |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 10                                                                                  |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 2%                                                                                  | 23%                                                                                 | 100%                                                                                | 0%                                                                                  | 8%                                                                                  | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     |                                                                                     | NA                                                                                  |                                                                                     |
| Protected Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 1.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.4                                                                               |                                                                                     | 106.6                                                                               |                                                                                     |                                                                                     | 106.6                                                                               |                                                                                     |
| Effective Green, g (s)            | 1.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.4                                                                               |                                                                                     | 106.6                                                                               |                                                                                     |                                                                                     | 106.6                                                                               |                                                                                     |
| Actuated g/C Ratio                | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                     | 0.89                                                                                |                                                                                     |                                                                                     | 0.89                                                                                |                                                                                     |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                     | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                     | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 20                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 18                                                                                |                                                                                     | 1226                                                                                |                                                                                     |                                                                                     | 1543                                                                                |                                                                                     |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | c0.79                                                                               |                                                                                     |
| v/s Ratio Perm                    | c0.00                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                     | 0.61                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/c Ratio                         | 0.25                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                     | 0.69                                                                                |                                                                                     |                                                                                     | 0.89                                                                                |                                                                                     |
| Uniform Delay, d1                 | 58.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 58.6                                                                              |                                                                                     | 1.9                                                                                 |                                                                                     |                                                                                     | 3.6                                                                                 |                                                                                     |
| Progression Factor                | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 3.20                                                                                |                                                                                     |                                                                                     | 2.54                                                                                |                                                                                     |
| Incremental Delay, d2             | 6.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                     | 3.1                                                                                 |                                                                                     |                                                                                     | 5.7                                                                                 |                                                                                     |
| Delay (s)                         | 65.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 58.8                                                                              |                                                                                     | 9.2                                                                                 |                                                                                     |                                                                                     | 14.9                                                                                |                                                                                     |
| Level of Service                  | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | E                                                                                 |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Approach Delay (s)                |                                                                                   | 65.3                                                                              |                                                                                   |                                                                                   | 58.8                                                                              |                                                                                   |                                                                                     | 9.2                                                                                 |                                                                                     |                                                                                     | 14.9                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 13.0                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.88                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 84.2%                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Dixie Road & 12489 Site Access 1

Future Background 2028 (12489) PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 0                                                                                 | 810                                                                               | 0                                                                                 | 0                                                                                 | 1280                                                                              |
| Future Volume (Veh/h)             | 0                                                                                 | 0                                                                                 | 810                                                                               | 0                                                                                 | 0                                                                                 | 1280                                                                              |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 0                                                                                 | 810                                                                               | 0                                                                                 | 0                                                                                 | 1280                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 394                                                                               |
| pX, platoon unblocked             | 0.21                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 2090                                                                              | 810                                                                               |                                                                                   |                                                                                   | 810                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 4301                                                                              | 810                                                                               |                                                                                   |                                                                                   | 810                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 100                                                                               |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 0                                                                                 | 383                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 0                                                                                 | 810                                                                               | 0                                                                                 | 1280                                                                              |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 825                                                                               |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.00                                                                              | 0.48                                                                              | 0.04                                                                              | 0.00                                                                              |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 70.7%                                                                             | ICU Level of Service                                                              | C                                                                                 |                                                                                   |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Future Background 2028 (12489) PM Peak Hour



| Lane Group             | EBL   | EBT   | NBL   | NBT   | SBT   | SBR   | Ø8   |
|------------------------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations    |       |       |       |       |       |       |      |
| Traffic Volume (vph)   | 35    | 0     | 20    | 790   | 1230  | 5     |      |
| Future Volume (vph)    | 35    | 0     | 20    | 790   | 1230  | 5     |      |
| Lane Group Flow (vph)  | 35    | 55    | 20    | 790   | 1230  | 5     |      |
| Turn Type              | Perm  | NA    | Perm  | NA    | NA    | Perm  |      |
| Protected Phases       |       | 4     |       | 2     | 6     |       | 8    |
| Permitted Phases       | 4     |       | 2     |       |       | 6     |      |
| Detector Phase         | 4     | 4     | 2     | 2     | 6     | 6     |      |
| Switch Phase           |       |       |       |       |       |       |      |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0  |
| Minimum Split (s)      | 39.0  | 39.0  | 31.5  | 31.5  | 31.5  | 31.5  | 39.0 |
| Total Split (s)        | 39.0  | 39.0  | 81.0  | 81.0  | 81.0  | 81.0  | 39.0 |
| Total Split (%)        | 32.5% | 32.5% | 67.5% | 67.5% | 67.5% | 67.5% | 33%  |
| Yellow Time (s)        | 4.0   | 4.0   | 4.5   | 4.5   | 4.5   | 4.5   | 4.0  |
| All-Red Time (s)       | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0  |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Lost Time (s)    | 6.0   | 6.0   | 6.5   | 6.5   | 6.5   | 6.5   |      |
| Lead/Lag               |       |       |       |       |       |       |      |
| Lead-Lag Optimize?     |       |       |       |       |       |       |      |
| Recall Mode            | None  | None  | C-Max | C-Max | C-Max | C-Max | None |
| v/c Ratio              | 0.35  | 0.29  | 0.08  | 0.59  | 0.81  | 0.00  |      |
| Control Delay          | 61.7  | 9.2   | 2.0   | 5.5   | 14.7  | 0.4   |      |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Delay            | 61.7  | 9.2   | 2.0   | 5.5   | 14.7  | 0.4   |      |
| Queue Length 50th (m)  | 8.4   | 0.0   | 0.4   | 77.8  | 150.3 | 0.0   |      |
| Queue Length 95th (m)  | 19.0  | 7.4   | m0.9  | 108.1 | 343.7 | m0.2  |      |
| Internal Link Dist (m) |       | 161.0 |       | 369.7 | 813.5 |       |      |
| Turn Bay Length (m)    | 20.0  |       | 60.0  |       |       | 60.0  |      |
| Base Capacity (vph)    | 391   | 505   | 247   | 1347  | 1521  | 1369  |      |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Reduced v/c Ratio      | 0.09  | 0.11  | 0.08  | 0.59  | 0.81  | 0.00  |      |

## Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

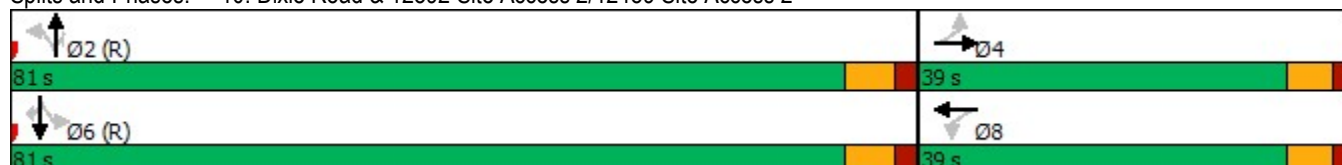
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2



# HCM Signalized Intersection Capacity Analysis

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Future Background 2028 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 35                                                                                | 0                                                                                 | 55                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 20                                                                                  | 790                                                                                 | 0                                                                                   | 0                                                                                   | 1230                                                                                | 5                                                                                   |
| Future Volume (vph)               | 35                                                                                | 0                                                                                 | 55                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 20                                                                                  | 790                                                                                 | 0                                                                                   | 0                                                                                   | 1230                                                                                | 5                                                                                   |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.0                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 0.85                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              | 1633                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1785                                                                                | 1575                                                                                |                                                                                     |                                                                                     | 1779                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.76                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.15                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1423                                                                              | 1633                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 289                                                                                 | 1575                                                                                |                                                                                     |                                                                                     | 1779                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 35                                                                                | 0                                                                                 | 55                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 20                                                                                  | 790                                                                                 | 0                                                                                   | 0                                                                                   | 1230                                                                                | 5                                                                                   |
| RTOR Reduction (vph)              | 0                                                                                 | 52                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1                                                                                   |
| Lane Group Flow (vph)             | 35                                                                                | 3                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 20                                                                                  | 790                                                                                 | 0                                                                                   | 0                                                                                   | 1230                                                                                | 4                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                  | 22%                                                                                 | 0%                                                                                  | 0%                                                                                  | 8%                                                                                  | 0%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              |                                                                                   |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 7.4                                                                               | 7.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 100.1                                                                               | 100.1                                                                               |                                                                                     |                                                                                     | 100.1                                                                               | 100.1                                                                               |
| Effective Green, g (s)            | 7.4                                                                               | 7.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 100.1                                                                               | 100.1                                                                               |                                                                                     |                                                                                     | 100.1                                                                               | 100.1                                                                               |
| Actuated g/C Ratio                | 0.06                                                                              | 0.06                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.83                                                                                | 0.83                                                                                |                                                                                     |                                                                                     | 0.83                                                                                | 0.83                                                                                |
| Clearance Time (s)                | 6.0                                                                               | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 87                                                                                | 100                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 241                                                                                 | 1313                                                                                |                                                                                     |                                                                                     | 1483                                                                                | 1332                                                                                |
| v/s Ratio Prot                    |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.50                                                                                |                                                                                     |                                                                                     | c0.69                                                                               |                                                                                     |
| v/s Ratio Perm                    | c0.02                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.07                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.00                                                                                |
| v/c Ratio                         | 0.40                                                                              | 0.03                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.08                                                                                | 0.60                                                                                |                                                                                     |                                                                                     | 0.83                                                                                | 0.00                                                                                |
| Uniform Delay, d1                 | 54.2                                                                              | 52.9                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.8                                                                                 | 3.3                                                                                 |                                                                                     |                                                                                     | 5.4                                                                                 | 1.7                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.59                                                                                | 1.02                                                                                |                                                                                     |                                                                                     | 1.43                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 3.0                                                                               | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.5                                                                                 | 1.6                                                                                 |                                                                                     |                                                                                     | 5.5                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 57.2                                                                              | 53.1                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.6                                                                                 | 5.0                                                                                 |                                                                                     |                                                                                     | 13.2                                                                                | 1.7                                                                                 |
| Level of Service                  | E                                                                                 | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 54.7                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                     | 4.9                                                                                 |                                                                                     |                                                                                     | 13.1                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   | 11.7                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   | 0.80                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                   |                                                                                     | 12.5                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   | 79.3%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 11: Dixie Road & 12861 Site Access 1

Future Background 2028 (12489) PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |                                                                                   |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 45                                                                                | 775                                                                               | 50                                                                                | 0                                                                                 | 1235                                                                              |
| Future Volume (Veh/h)             | 0                                                                                 | 45                                                                                | 775                                                                               | 50                                                                                | 0                                                                                 | 1235                                                                              |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 45                                                                                | 775                                                                               | 50                                                                                | 0                                                                                 | 1235                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 240                                                                               |
| pX, platoon unblocked             | 0.83                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 2035                                                                              | 800                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 2143                                                                              | 800                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 88                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 45                                                                                | 388                                                                               |                                                                                   |                                                                                   | 814                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 45                                                                                | 825                                                                               | 1235                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 45                                                                                | 50                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 388                                                                               | 1700                                                                              | 1700                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.12                                                                              | 0.49                                                                              | 0.73                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 3.1                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 15.5                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 15.5                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.3                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 68.3%                                                                             | ICU Level of Service                                                              |                                                                                   | C                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

### 12: Dixie Road & Old School Road

Future Background 2028 (12489) PM Peak Hour

|                        |  |  |  |  |  |  |   |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 130                                                                               | 150                                                                               | 105                                                                               | 190                                                                               | 350                                                                               | 90                                                                                | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| Future Volume (vph)    | 130                                                                               | 150                                                                               | 105                                                                               | 190                                                                               | 350                                                                               | 90                                                                                | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| Lane Group Flow (vph)  | 130                                                                               | 150                                                                               | 105                                                                               | 190                                                                               | 365                                                                               | 90                                                                                | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| Turn Type              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       | 7                                                                                 | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 7                                                                                 | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 9.5                                                                               | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                |
| Total Split (s)        | 13.7                                                                              | 58.7                                                                              | 58.7                                                                              | 45.0                                                                              | 45.0                                                                              | 61.3                                                                              | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                |
| Total Split (%)        | 11.4%                                                                             | 48.9%                                                                             | 48.9%                                                                             | 37.5%                                                                             | 37.5%                                                                             | 51.1%                                                                             | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               |
| Yellow Time (s)        | 3.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 1.0                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               | Lead                                                                              |                                                                                   |                                                                                   | Lag                                                                               | Lag                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.52                                                                              | 0.23                                                                              | 0.17                                                                              | 0.64                                                                              | 0.81                                                                              | 0.29                                                                              | 0.53                                                                                | 0.11                                                                                | 0.06                                                                                | 0.34                                                                                | 0.07                                                                                |
| Control Delay          | 31.8                                                                              | 27.0                                                                              | 4.7                                                                               | 37.5                                                                              | 43.8                                                                              | 30.9                                                                              | 32.4                                                                                | 14.4                                                                                | 16.4                                                                                | 18.0                                                                                | 4.0                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 31.8                                                                              | 27.0                                                                              | 4.7                                                                               | 37.5                                                                              | 43.8                                                                              | 30.9                                                                              | 32.4                                                                                | 14.4                                                                                | 16.4                                                                                | 18.0                                                                                | 4.0                                                                                 |
| Queue Length 50th (m)  | 21.6                                                                              | 26.0                                                                              | 0.0                                                                               | 49.1                                                                              | 94.6                                                                              | 17.3                                                                              | 119.6                                                                               | 7.9                                                                                 | 2.3                                                                                 | 42.8                                                                                | 0.0                                                                                 |
| Queue Length 95th (m)  | 32.0                                                                              | 37.4                                                                              | 10.6                                                                              | 73.1                                                                              | 125.1                                                                             | m33.5                                                                             | 170.8                                                                               | m22.5                                                                               | 7.6                                                                                 | 74.1                                                                                | 7.5                                                                                 |
| Internal Link Dist (m) |                                                                                   | 371.4                                                                             |                                                                                   |                                                                                   | 41.8                                                                              |                                                                                   | 216.1                                                                               |                                                                                     |                                                                                     | 261.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 75.0                                                                              |                                                                                   | 75.0                                                                              | 65.0                                                                              |                                                                                   | 75.0                                                                              |                                                                                     | 50.0                                                                                | 75.0                                                                                |                                                                                     | 75.0                                                                                |
| Base Capacity (vph)    | 252                                                                               | 811                                                                               | 747                                                                               | 399                                                                               | 606                                                                               | 306                                                                               | 1028                                                                                | 855                                                                                 | 336                                                                                 | 953                                                                                 | 878                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.52                                                                              | 0.18                                                                              | 0.14                                                                              | 0.48                                                                              | 0.60                                                                              | 0.29                                                                              | 0.53                                                                                | 0.11                                                                                | 0.06                                                                                | 0.34                                                                                | 0.07                                                                                |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

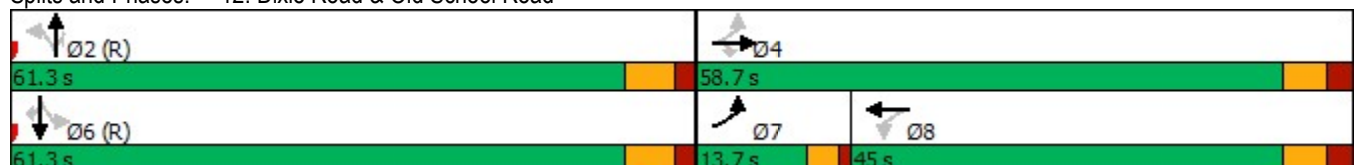
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Dixie Road & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 12: Dixie Road & Old School Road

Future Background 2028 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |   |  |  |  |  |  |
| Traffic Volume (vph)              | 130                                                                               | 150                                                                               | 105                                                                               | 190                                                                               | 350                                                                               | 15                                                                                | 90                                                                                  | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| Future Volume (vph)               | 130                                                                               | 150                                                                               | 105                                                                               | 190                                                                               | 350                                                                               | 15                                                                                | 90                                                                                  | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              | 1865                                                                              | 1581                                                                              | 1785                                                                              | 1886                                                                              |                                                                                   | 1038                                                                                | 1902                                                                                | 1521                                                                                | 1733                                                                                | 1762                                                                                | 1566                                                                                |
| Flt Permitted                     | 0.20                                                                              | 1.00                                                                              | 1.00                                                                              | 0.66                                                                              | 1.00                                                                              |                                                                                   | 0.52                                                                                | 1.00                                                                                | 1.00                                                                                | 0.34                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 371                                                                               | 1865                                                                              | 1581                                                                              | 1243                                                                              | 1886                                                                              |                                                                                   | 567                                                                                 | 1902                                                                                | 1521                                                                                | 622                                                                                 | 1762                                                                                | 1566                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 130                                                                               | 150                                                                               | 105                                                                               | 190                                                                               | 350                                                                               | 15                                                                                | 90                                                                                  | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 68                                                                                | 0                                                                                 | 2                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 32                                                                                  | 0                                                                                   | 0                                                                                   | 30                                                                                  |
| Lane Group Flow (vph)             | 130                                                                               | 150                                                                               | 37                                                                                | 190                                                                               | 363                                                                               | 0                                                                                 | 90                                                                                  | 540                                                                                 | 63                                                                                  | 20                                                                                  | 320                                                                                 | 35                                                                                  |
| Heavy Vehicles (%)                | 0%                                                                                | 3%                                                                                | 1%                                                                                | 0%                                                                                | 1%                                                                                | 7%                                                                                | 72%                                                                                 | 1%                                                                                  | 5%                                                                                  | 3%                                                                                  | 9%                                                                                  | 2%                                                                                  |
| Turn Type                         | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  | 7                                                                                 | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 42.1                                                                              | 42.1                                                                              | 42.1                                                                              | 28.6                                                                              | 28.6                                                                              |                                                                                   | 64.9                                                                                | 64.9                                                                                | 64.9                                                                                | 64.9                                                                                | 64.9                                                                                | 64.9                                                                                |
| Effective Green, g (s)            | 42.1                                                                              | 42.1                                                                              | 42.1                                                                              | 28.6                                                                              | 28.6                                                                              |                                                                                   | 64.9                                                                                | 64.9                                                                                | 64.9                                                                                | 64.9                                                                                | 64.9                                                                                | 64.9                                                                                |
| Actuated g/C Ratio                | 0.35                                                                              | 0.35                                                                              | 0.35                                                                              | 0.24                                                                              | 0.24                                                                              |                                                                                   | 0.54                                                                                | 0.54                                                                                | 0.54                                                                                | 0.54                                                                                | 0.54                                                                                | 0.54                                                                                |
| Clearance Time (s)                | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 242                                                                               | 654                                                                               | 554                                                                               | 296                                                                               | 449                                                                               |                                                                                   | 306                                                                                 | 1028                                                                                | 822                                                                                 | 336                                                                                 | 952                                                                                 | 846                                                                                 |
| v/s Ratio Prot                    | c0.04                                                                             | 0.08                                                                              |                                                                                   |                                                                                   | c0.19                                                                             |                                                                                   |                                                                                     | c0.28                                                                               |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| v/s Ratio Perm                    | 0.15                                                                              |                                                                                   | 0.02                                                                              | 0.15                                                                              |                                                                                   |                                                                                   | 0.16                                                                                |                                                                                     | 0.04                                                                                | 0.03                                                                                |                                                                                     | 0.02                                                                                |
| v/c Ratio                         | 0.54                                                                              | 0.23                                                                              | 0.07                                                                              | 0.64                                                                              | 0.81                                                                              |                                                                                   | 0.29                                                                                | 0.53                                                                                | 0.08                                                                                | 0.06                                                                                | 0.34                                                                                | 0.04                                                                                |
| Uniform Delay, d1                 | 29.3                                                                              | 27.5                                                                              | 25.9                                                                              | 41.1                                                                              | 43.1                                                                              |                                                                                   | 15.0                                                                                | 17.7                                                                                | 13.2                                                                                | 13.1                                                                                | 15.5                                                                                | 12.9                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.68                                                                              | 0.70                                                                              |                                                                                   | 1.59                                                                                | 1.58                                                                                | 2.39                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 2.3                                                                               | 0.2                                                                               | 0.1                                                                               | 4.6                                                                               | 10.2                                                                              |                                                                                   | 2.1                                                                                 | 1.6                                                                                 | 0.2                                                                                 | 0.3                                                                                 | 1.0                                                                                 | 0.1                                                                                 |
| Delay (s)                         | 31.6                                                                              | 27.7                                                                              | 25.9                                                                              | 32.7                                                                              | 40.3                                                                              |                                                                                   | 26.0                                                                                | 29.5                                                                                | 31.8                                                                                | 13.4                                                                                | 16.4                                                                                | 13.0                                                                                |
| Level of Service                  | C                                                                                 | C                                                                                 | C                                                                                 | C                                                                                 | D                                                                                 |                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   | B                                                                                   | B                                                                                   | B                                                                                   |
| Approach Delay (s)                |                                                                                   | 28.5                                                                              |                                                                                   |                                                                                   | 37.7                                                                              |                                                                                   |                                                                                     | 29.4                                                                                |                                                                                     |                                                                                     | 15.7                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 28.8                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.61                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 17.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 78.7%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# HCM Unsignalized Intersection Capacity Analysis

## 13: 12861 Site Access 2 & Old School Road

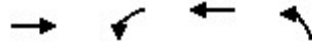
Future Background 2028 (12489) PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |                                                                                   |  |
| Traffic Volume (veh/h)            | 245                                                                               | 15                                                                                | 0                                                                                 | 550                                                                               | 0                                                                                 | 10                                                                                |
| Future Volume (Veh/h)             | 245                                                                               | 15                                                                                | 0                                                                                 | 550                                                                               | 0                                                                                 | 10                                                                                |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 245                                                                               | 15                                                                                | 0                                                                                 | 550                                                                               | 0                                                                                 | 10                                                                                |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       | None                                                                              |                                                                                   | None                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               | 66                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 260                                                                               |                                                                                   | 528                                                                               | 130                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 260                                                                               |                                                                                   | 528                                                                               | 130                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.8                                                                               | 6.9                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 100                                                                               |                                                                                   | 100                                                                               | 99                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 1316                                                                              |                                                                                   | 485                                                                               | 902                                                                               |
| Direction, Lane #                 | EB 1                                                                              | EB 2                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              |                                                                                   |
| Volume Total                      | 163                                                                               | 97                                                                                | 275                                                                               | 275                                                                               | 10                                                                                |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |
| Volume Right                      | 0                                                                                 | 15                                                                                | 0                                                                                 | 0                                                                                 | 10                                                                                |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 1700                                                                              | 902                                                                               |                                                                                   |
| Volume to Capacity                | 0.10                                                                              | 0.06                                                                              | 0.16                                                                              | 0.16                                                                              | 0.01                                                                              |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.3                                                                               |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 9.0                                                                               |                                                                                   |
| Lane LOS                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   | 9.0                                                                               |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 18.5%                                                                             | ICU Level of Service                                                              | A                                                                                 |                                                                                   |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

### 14: 12861 Site Access 3 & Old School Road

Future Background 2028 (12489) PM Peak Hour



| Lane Group             | EBT   | WBL   | WBT   | NBL   |
|------------------------|-------|-------|-------|-------|
| Lane Configurations    | ↑↑    | ↑     | ↑↑    | ↑     |
| Traffic Volume (vph)   | 255   | 10    | 420   | 130   |
| Future Volume (vph)    | 255   | 10    | 420   | 130   |
| Lane Group Flow (vph)  | 255   | 10    | 420   | 150   |
| Turn Type              | NA    | Perm  | NA    | Prot  |
| Protected Phases       | 4     |       | 8     | 2     |
| Permitted Phases       |       | 8     |       |       |
| Detector Phase         | 4     | 8     | 8     | 2     |
| Switch Phase           |       |       |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)      | 28.5  | 31.5  | 31.5  | 31.5  |
| Total Split (s)        | 60.0  | 60.0  | 60.0  | 60.0  |
| Total Split (%)        | 50.0% | 50.0% | 50.0% | 50.0% |
| Yellow Time (s)        | 4.5   | 4.5   | 4.5   | 4.0   |
| All-Red Time (s)       | 2.0   | 2.0   | 2.0   | 2.5   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5   | 6.5   |
| Lead/Lag               |       |       |       |       |
| Lead-Lag Optimize?     |       |       |       |       |
| Recall Mode            | None  | None  | None  | C-Min |
| v/c Ratio              | 0.43  | 0.06  | 0.71  | 0.12  |
| Control Delay          | 34.4  | 41.1  | 54.0  | 5.3   |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay            | 34.4  | 41.1  | 54.0  | 5.3   |
| Queue Length 50th (m)  | 27.9  | 2.1   | 52.4  | 9.1   |
| Queue Length 95th (m)  | 38.0  | 7.0   | 67.1  | 18.2  |
| Internal Link Dist (m) | 433.3 |       | 157.0 | 183.7 |
| Turn Bay Length (m)    |       | 95.0  |       |       |
| Base Capacity (vph)    | 1627  | 456   | 1627  | 1290  |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     |
| Reduced v/c Ratio      | 0.16  | 0.02  | 0.26  | 0.12  |

#### Intersection Summary

Cycle Length: 120

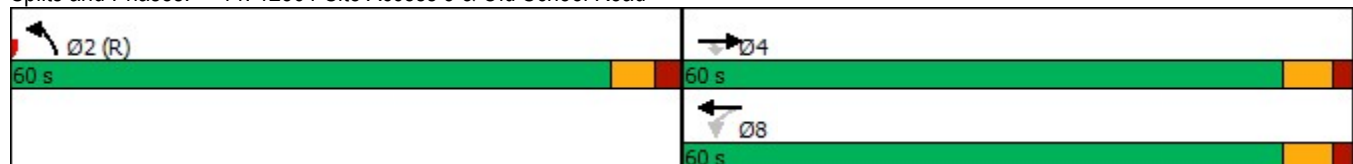
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 14: 12861 Site Access 3 & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 14: 12861 Site Access 3 & Old School Road

Future Background 2028 (12489) PM Peak Hour

|                                   | →    | ↘    | ↙     | ←     | ↖                         | ↗    |
|-----------------------------------|------|------|-------|-------|---------------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT   | NBL                       | NBR  |
| Lane Configurations               | ↑↑   | ↑    | ↓     | ↑↑    | ↓                         |      |
| Traffic Volume (vph)              | 255  | 0    | 10    | 420   | 130                       | 20   |
| Future Volume (vph)               | 255  | 0    | 10    | 420   | 130                       | 20   |
| Ideal Flow (vphpl)                | 1900 | 1900 | 1900  | 1900  | 1900                      | 1900 |
| Lane Width                        | 3.7  | 3.5  | 3.5   | 3.7   | 3.5                       | 3.5  |
| Total Lost time (s)               | 6.5  |      | 6.5   | 6.5   | 6.5                       |      |
| Lane Util. Factor                 | 0.95 |      | 1.00  | 0.95  | 1.00                      |      |
| Frt                               | 1.00 |      | 1.00  | 1.00  | 0.98                      |      |
| Flt Protected                     | 1.00 |      | 0.95  | 1.00  | 0.96                      |      |
| Satd. Flow (prot)                 | 3650 |      | 1785  | 3650  | 1768                      |      |
| Flt Permitted                     | 1.00 |      | 0.55  | 1.00  | 0.96                      |      |
| Satd. Flow (perm)                 | 3650 |      | 1025  | 3650  | 1768                      |      |
| Peak-hour factor, PHF             | 1.00 | 1.00 | 1.00  | 1.00  | 1.00                      | 1.00 |
| Adj. Flow (vph)                   | 255  | 0    | 10    | 420   | 130                       | 20   |
| RTOR Reduction (vph)              | 0    | 0    | 0     | 0     | 2                         | 0    |
| Lane Group Flow (vph)             | 255  | 0    | 10    | 420   | 148                       | 0    |
| Heavy Vehicles (%)                | 0%   | 0%   | 0%    | 0%    | 0%                        | 0%   |
| Turn Type                         | NA   | Perm | Perm  | NA    | Prot                      |      |
| Protected Phases                  | 4    |      |       | 8     | 2                         |      |
| Permitted Phases                  |      | 4    | 8     |       |                           |      |
| Actuated Green, G (s)             | 19.5 |      | 19.5  | 19.5  | 87.5                      |      |
| Effective Green, g (s)            | 19.5 |      | 19.5  | 19.5  | 87.5                      |      |
| Actuated g/C Ratio                | 0.16 |      | 0.16  | 0.16  | 0.73                      |      |
| Clearance Time (s)                | 6.5  |      | 6.5   | 6.5   | 6.5                       |      |
| Vehicle Extension (s)             | 3.0  |      | 3.0   | 3.0   | 3.0                       |      |
| Lane Grp Cap (vph)                | 593  |      | 166   | 593   | 1289                      |      |
| v/s Ratio Prot                    | 0.07 |      |       | c0.12 | c0.08                     |      |
| v/s Ratio Perm                    |      |      | 0.01  |       |                           |      |
| v/c Ratio                         | 0.43 |      | 0.06  | 0.71  | 0.11                      |      |
| Uniform Delay, d1                 | 45.2 |      | 42.5  | 47.6  | 4.8                       |      |
| Progression Factor                | 0.72 |      | 1.00  | 1.00  | 1.00                      |      |
| Incremental Delay, d2             | 0.5  |      | 0.2   | 3.9   | 0.2                       |      |
| Delay (s)                         | 33.1 |      | 42.7  | 51.4  | 5.0                       |      |
| Level of Service                  | C    |      | D     | D     | A                         |      |
| Approach Delay (s)                | 33.1 |      |       | 51.2  | 5.0                       |      |
| Approach LOS                      | C    |      |       | D     | A                         |      |
| <b>Intersection Summary</b>       |      |      |       |       |                           |      |
| HCM 2000 Control Delay            |      |      | 37.4  |       | HCM 2000 Level of Service | D    |
| HCM 2000 Volume to Capacity ratio |      |      | 0.22  |       |                           |      |
| Actuated Cycle Length (s)         |      |      | 120.0 |       | Sum of lost time (s)      | 13.0 |
| Intersection Capacity Utilization |      |      | 30.9% |       | ICU Level of Service      | A    |
| Analysis Period (min)             |      |      | 15    |       |                           |      |
| c Critical Lane Group             |      |      |       |       |                           |      |

# HCM Unsignalized Intersection Capacity Analysis

## 15: Bramalea Road & Old School Road

Future Background 2028 (12489) PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 45                                                                                | 205                                                                               | 25                                                                                | 15                                                                                | 345                                                                               | 10                                                                                | 60                                                                                 | 200                                                                                 | 35                                                                                  | 10                                                                                  | 55                                                                                  | 25                                                                                  |
| Future Volume (vph)               | 45                                                                                | 205                                                                               | 25                                                                                | 15                                                                                | 345                                                                               | 10                                                                                | 60                                                                                 | 200                                                                                 | 35                                                                                  | 10                                                                                  | 55                                                                                  | 25                                                                                  |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Hourly flow rate (vph)            | 45                                                                                | 205                                                                               | 25                                                                                | 15                                                                                | 345                                                                               | 10                                                                                | 60                                                                                 | 200                                                                                 | 35                                                                                  | 10                                                                                  | 55                                                                                  | 25                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 275                                                                               | 370                                                                               | 295                                                                               | 90                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 45                                                                                | 15                                                                                | 60                                                                                | 10                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 25                                                                                | 10                                                                                | 35                                                                                | 25                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | 0.05                                                                              | 0.01                                                                              | -0.03                                                                             | -0.04                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 5.8                                                                               | 5.6                                                                               | 5.9                                                                               | 6.4                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.44                                                                              | 0.58                                                                              | 0.48                                                                              | 0.16                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 572                                                                               | 608                                                                               | 559                                                                               | 466                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 13.3                                                                              | 16.0                                                                              | 14.3                                                                              | 10.6                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 13.3                                                                              | 16.0                                                                              | 14.3                                                                              | 10.6                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | B                                                                                 | C                                                                                 | B                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   |                                                                                   | 14.3                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 60.7%                                                                             | ICU Level of Service                                                              | B                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Queues

## 1: Dixie Road & Mayfield Road

Future Total 2028 AM Peak Hour

|                        |                                                                                    |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |                                                                                      |  |                                                                                      |                                                                                      |  |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                                                                                                                 | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                | NBT                                                                                                                                                                     | NBR                                                                                 | SBL                                                                                                                                                                     | SBT                                                                                                                                                                     | SBR                                                                                 |
| Lane Configurations    |   |    |  |  |    |  |  |   |  |   |   |  |
| Traffic Volume (vph)   | 905                                                                                                                                                                 | 1820                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 845                                                                                                                                                                                                                                                   | 225                                                                               | 130                                                                                | 355                                                                                                                                                                     | 60                                                                                  | 115                                                                                                                                                                     | 310                                                                                                                                                                     | 455                                                                                 |
| Future Volume (vph)    | 905                                                                                                                                                                 | 1820                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 845                                                                                                                                                                                                                                                   | 225                                                                               | 130                                                                                | 355                                                                                                                                                                     | 60                                                                                  | 115                                                                                                                                                                     | 310                                                                                                                                                                     | 455                                                                                 |
| Lane Group Flow (vph)  | 905                                                                                                                                                                 | 1820                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 845                                                                                                                                                                                                                                                   | 225                                                                               | 130                                                                                | 355                                                                                                                                                                     | 60                                                                                  | 115                                                                                                                                                                     | 310                                                                                                                                                                     | 455                                                                                 |
| Turn Type              | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | custom                                                                            | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | custom                                                                            | pm+pt                                                                              | NA                                                                                                                                                                      | custom                                                                              | pm+pt                                                                                                                                                                   | NA                                                                                                                                                                      | custom                                                                              |
| Protected Phases       | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                   | 7                                                                                  | 4                                                                                                                                                                       |                                                                                     | 3                                                                                                                                                                       | 8                                                                                                                                                                       |                                                                                     |
| Permitted Phases       |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 2 4                                                                               | 6                                                                                 |                                                                                                                                                                                                                                                       | 6 8                                                                               | 4                                                                                  |                                                                                                                                                                         | 4 6                                                                                 | 8                                                                                                                                                                       |                                                                                                                                                                         | 8 2                                                                                 |
| Detector Phase         | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     | 2 4                                                                               | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 6 8                                                                               | 7                                                                                  | 4                                                                                                                                                                       | 4 6                                                                                 | 3                                                                                                                                                                       | 8                                                                                                                                                                       | 8 2                                                                                 |
| Switch Phase           |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                    |                                                                                                                                                                         |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                                                                                                                 | 8.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                               | 8.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                                | 8.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                                                                                                     | 8.0                                                                                                                                                                     |                                                                                     |
| Minimum Split (s)      | 9.5                                                                                                                                                                 | 44.9                                                                                                                                                                                                                                                  |                                                                                   | 9.5                                                                               | 44.9                                                                                                                                                                                                                                                  |                                                                                   | 9.5                                                                                | 47.0                                                                                                                                                                    |                                                                                     | 9.5                                                                                                                                                                     | 47.9                                                                                                                                                                    |                                                                                     |
| Total Split (s)        | 31.0                                                                                                                                                                | 66.4                                                                                                                                                                                                                                                  |                                                                                   | 9.6                                                                               | 45.0                                                                                                                                                                                                                                                  |                                                                                   | 11.1                                                                               | 47.9                                                                                                                                                                    |                                                                                     | 11.1                                                                                                                                                                    | 47.9                                                                                                                                                                    |                                                                                     |
| Total Split (%)        | 23.0%                                                                                                                                                               | 49.2%                                                                                                                                                                                                                                                 |                                                                                   | 7.1%                                                                              | 33.3%                                                                                                                                                                                                                                                 |                                                                                   | 8.2%                                                                               | 35.5%                                                                                                                                                                   |                                                                                     | 8.2%                                                                                                                                                                    | 35.5%                                                                                                                                                                   |                                                                                     |
| Yellow Time (s)        | 3.5                                                                                                                                                                 | 4.6                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                               | 4.6                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                                | 4.0                                                                                                                                                                     |                                                                                     | 3.5                                                                                                                                                                     | 4.6                                                                                                                                                                     |                                                                                     |
| All-Red Time (s)       | 1.0                                                                                                                                                                 | 2.3                                                                                                                                                                                                                                                   |                                                                                   | 1.0                                                                               | 2.3                                                                                                                                                                                                                                                   |                                                                                   | 1.0                                                                                | 2.0                                                                                                                                                                     |                                                                                     | 1.0                                                                                                                                                                     | 2.3                                                                                                                                                                     |                                                                                     |
| Lost Time Adjust (s)   | -1.0                                                                                                                                                                | 0.0                                                                                                                                                                                                                                                   |                                                                                   | -1.0                                                                              | 0.0                                                                                                                                                                                                                                                   |                                                                                   | -1.0                                                                               | 0.0                                                                                                                                                                     |                                                                                     | -1.0                                                                                                                                                                    | 0.0                                                                                                                                                                     |                                                                                     |
| Total Lost Time (s)    | 3.5                                                                                                                                                                 | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                               | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                                | 6.0                                                                                                                                                                     |                                                                                     | 3.5                                                                                                                                                                     | 6.9                                                                                                                                                                     |                                                                                     |
| Lead/Lag               | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                              | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                               | Lag                                                                                                                                                                     |                                                                                     | Lead                                                                                                                                                                    | Lag                                                                                                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                               | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                                | Yes                                                                                                                                                                     |                                                                                     | Yes                                                                                                                                                                     | Yes                                                                                                                                                                     |                                                                                     |
| Recall Mode            | None                                                                                                                                                                | C-Min                                                                                                                                                                                                                                                 |                                                                                   | None                                                                              | C-Min                                                                                                                                                                                                                                                 |                                                                                   | None                                                                               | None                                                                                                                                                                    |                                                                                     | None                                                                                                                                                                    | None                                                                                                                                                                    |                                                                                     |
| v/c Ratio              | 0.86                                                                                                                                                                | 0.65                                                                                                                                                                                                                                                  | 0.23                                                                              | 0.40                                                                              | 0.75                                                                                                                                                                                                                                                  | 0.32                                                                              | 0.51                                                                               | 0.68                                                                                                                                                                    | 0.10                                                                                | 0.61                                                                                                                                                                    | 0.66                                                                                                                                                                    | 0.44                                                                                |
| Control Delay          | 49.4                                                                                                                                                                | 22.0                                                                                                                                                                                                                                                  | 0.8                                                                               | 27.0                                                                              | 51.6                                                                                                                                                                                                                                                  | 2.7                                                                               | 46.4                                                                               | 59.8                                                                                                                                                                    | 1.3                                                                                 | 54.1                                                                                                                                                                    | 60.3                                                                                                                                                                    | 1.6                                                                                 |
| Queue Delay            | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                                                                                                     | 0.0                                                                                                                                                                     | 0.0                                                                                 |
| Total Delay            | 49.4                                                                                                                                                                | 22.0                                                                                                                                                                                                                                                  | 0.8                                                                               | 27.0                                                                              | 51.6                                                                                                                                                                                                                                                  | 2.7                                                                               | 46.4                                                                               | 59.8                                                                                                                                                                    | 1.3                                                                                 | 54.1                                                                                                                                                                    | 60.3                                                                                                                                                                    | 1.6                                                                                 |
| Queue Length 50th (m)  | 125.4                                                                                                                                                               | 126.3                                                                                                                                                                                                                                                 | 0.0                                                                               | 5.4                                                                               | 78.3                                                                                                                                                                                                                                                  | 0.0                                                                               | 28.7                                                                               | 49.9                                                                                                                                                                    | 0.0                                                                                 | 25.5                                                                                                                                                                    | 43.6                                                                                                                                                                    | 0.0                                                                                 |
| Queue Length 95th (m)  | #187.8                                                                                                                                                              | 163.2                                                                                                                                                                                                                                                 | 3.8                                                                               | 12.5                                                                              | 92.3                                                                                                                                                                                                                                                  | 9.9                                                                               | 45.1                                                                               | 63.5                                                                                                                                                                    | 2.9                                                                                 | 41.4                                                                                                                                                                    | 56.7                                                                                                                                                                    | 4.6                                                                                 |
| Internal Link Dist (m) |                                                                                                                                                                     | 980.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                   | 272.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                    | 844.0                                                                                                                                                                   |                                                                                     |                                                                                                                                                                         | 481.5                                                                                                                                                                   |                                                                                     |
| Turn Bay Length (m)    | 115.0                                                                                                                                                               |                                                                                                                                                                                                                                                       | 75.0                                                                              | 115.0                                                                             |                                                                                                                                                                                                                                                       | 110.0                                                                             | 115.0                                                                              |                                                                                                                                                                         | 65.0                                                                                | 115.0                                                                                                                                                                   |                                                                                                                                                                         | 135.0                                                                               |
| Base Capacity (vph)    | 1049                                                                                                                                                                | 2820                                                                                                                                                                                                                                                  | 1348                                                                              | 149                                                                               | 1309                                                                                                                                                                                                                                                  | 943                                                                               | 256                                                                                | 1029                                                                                                                                                                    | 824                                                                                 | 190                                                                                                                                                                     | 947                                                                                                                                                                     | 1126                                                                                |
| Starvation Cap Reductn | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                       | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                       | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                       | 0                                                                                   |
| Reduced v/c Ratio      | 0.86                                                                                                                                                                | 0.65                                                                                                                                                                                                                                                  | 0.21                                                                              | 0.40                                                                              | 0.65                                                                                                                                                                                                                                                  | 0.24                                                                              | 0.51                                                                               | 0.34                                                                                                                                                                    | 0.07                                                                                | 0.61                                                                                                                                                                    | 0.33                                                                                                                                                                    | 0.40                                                                                |

### Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Dixie Road & Mayfield Road

|                                                                                        |                                                                                            |                                                                                        |                                                                                         |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 (R) |  Ø3 |  Ø4 |
| 9.6 s                                                                                  | 66.4 s                                                                                     | 11.1 s                                                                                 | 47.9 s                                                                                  |
|  Ø5 |  Ø6 (R) |  Ø7 |  Ø8 |
| 31 s                                                                                   | 45 s                                                                                       | 11.1 s                                                                                 | 47.9 s                                                                                  |

# HCM Signalized Intersection Capacity Analysis

## 1: Dixie Road & Mayfield Road

Future Total 2028 AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |  |   |  |  |  |  |  |
| Traffic Volume (vph)              | 905                                                                               | 1820                                                                              | 280                                                                               | 60                                                                                | 845                                                                               | 225                                                                               | 130                                                                                 | 355                                                                                 | 60                                                                                  | 115                                                                                 | 310                                                                                 | 455                                                                                 |
| Future Volume (vph)               | 905                                                                               | 1820                                                                              | 280                                                                               | 60                                                                                | 845                                                                               | 225                                                                               | 130                                                                                 | 355                                                                                 | 60                                                                                  | 115                                                                                 | 310                                                                                 | 455                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 3.5                                                                               | 6.9                                                                               | 6.9                                                                               | 3.5                                                                               | 6.9                                                                               | 6.9                                                                               | 3.5                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 6.9                                                                                 |
| Lane Util. Factor                 | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 2748                                                                              | 4902                                                                              | 1554                                                                              | 1539                                                                              | 4641                                                                              | 1452                                                                              | 1666                                                                                | 3318                                                                                | 1319                                                                                | 1382                                                                                | 3120                                                                                | 1256                                                                                |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.12                                                                              | 1.00                                                                              | 1.00                                                                              | 0.45                                                                                | 1.00                                                                                | 1.00                                                                                | 0.36                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 2748                                                                              | 4902                                                                              | 1554                                                                              | 193                                                                               | 4641                                                                              | 1452                                                                              | 784                                                                                 | 3318                                                                                | 1319                                                                                | 526                                                                                 | 3120                                                                                | 1256                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 905                                                                               | 1820                                                                              | 280                                                                               | 60                                                                                | 845                                                                               | 225                                                                               | 130                                                                                 | 355                                                                                 | 60                                                                                  | 115                                                                                 | 310                                                                                 | 455                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 77                                                                                | 0                                                                                 | 0                                                                                 | 137                                                                               | 0                                                                                   | 0                                                                                   | 36                                                                                  | 0                                                                                   | 0                                                                                   | 128                                                                                 |
| Lane Group Flow (vph)             | 905                                                                               | 1820                                                                              | 203                                                                               | 60                                                                                | 845                                                                               | 88                                                                                | 130                                                                                 | 355                                                                                 | 24                                                                                  | 115                                                                                 | 310                                                                                 | 327                                                                                 |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   | 5                                                                                 | 5                                                                                 |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 26%                                                                               | 7%                                                                                | 1%                                                                                | 16%                                                                               | 13%                                                                               | 10%                                                                               | 7%                                                                                  | 10%                                                                                 | 19%                                                                                 | 29%                                                                                 | 17%                                                                                 | 25%                                                                                 |
| Turn Type                         | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                               | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases                  | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                   |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Actuated Green, G (s)             | 50.6                                                                              | 76.7                                                                              | 98.1                                                                              | 39.1                                                                              | 32.6                                                                              | 53.0                                                                              | 30.0                                                                                | 21.4                                                                                | 54.0                                                                                | 28.9                                                                                | 20.4                                                                                | 97.1                                                                                |
| Effective Green, g (s)            | 51.6                                                                              | 76.7                                                                              | 98.1                                                                              | 41.1                                                                              | 32.6                                                                              | 53.0                                                                              | 32.0                                                                                | 21.4                                                                                | 54.0                                                                                | 30.9                                                                                | 20.4                                                                                | 97.1                                                                                |
| Actuated g/C Ratio                | 0.38                                                                              | 0.57                                                                              | 0.73                                                                              | 0.30                                                                              | 0.24                                                                              | 0.39                                                                              | 0.24                                                                                | 0.16                                                                                | 0.40                                                                                | 0.23                                                                                | 0.15                                                                                | 0.72                                                                                |
| Clearance Time (s)                | 4.5                                                                               | 6.9                                                                               |                                                                                   | 4.5                                                                               | 6.9                                                                               |                                                                                   | 4.5                                                                                 | 6.0                                                                                 |                                                                                     | 4.5                                                                                 | 6.9                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 1050                                                                              | 2785                                                                              | 1129                                                                              | 133                                                                               | 1120                                                                              | 570                                                                               | 248                                                                                 | 525                                                                                 | 527                                                                                 | 180                                                                                 | 471                                                                                 | 903                                                                                 |
| v/s Ratio Prot                    | c0.33                                                                             | 0.37                                                                              |                                                                                   | 0.02                                                                              | c0.18                                                                             |                                                                                   | 0.04                                                                                | c0.11                                                                               |                                                                                     | c0.04                                                                               | 0.10                                                                                |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.13                                                                              | 0.11                                                                              |                                                                                   | 0.06                                                                              | 0.09                                                                                |                                                                                     | 0.02                                                                                | 0.10                                                                                |                                                                                     | 0.26                                                                                |
| v/c Ratio                         | 0.86                                                                              | 0.65                                                                              | 0.18                                                                              | 0.45                                                                              | 0.75                                                                              | 0.15                                                                              | 0.52                                                                                | 0.68                                                                                | 0.05                                                                                | 0.64                                                                                | 0.66                                                                                | 0.36                                                                                |
| Uniform Delay, d1                 | 38.4                                                                              | 20.0                                                                              | 5.8                                                                               | 44.5                                                                              | 47.5                                                                              | 26.5                                                                              | 42.7                                                                                | 53.5                                                                                | 24.8                                                                                | 44.0                                                                                | 54.0                                                                                | 7.2                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 7.4                                                                               | 1.2                                                                               | 0.1                                                                               | 2.4                                                                               | 4.7                                                                               | 0.1                                                                               | 2.0                                                                                 | 3.4                                                                                 | 0.0                                                                                 | 7.2                                                                                 | 3.3                                                                                 | 0.2                                                                                 |
| Delay (s)                         | 45.8                                                                              | 21.2                                                                              | 5.9                                                                               | 46.9                                                                              | 52.2                                                                              | 26.6                                                                              | 44.7                                                                                | 57.0                                                                                | 24.8                                                                                | 51.2                                                                                | 57.3                                                                                | 7.4                                                                                 |
| Level of Service                  | D                                                                                 | C                                                                                 | A                                                                                 | D                                                                                 | D                                                                                 | C                                                                                 | D                                                                                   | E                                                                                   | C                                                                                   | D                                                                                   | E                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 27.2                                                                              |                                                                                   |                                                                                   | 46.8                                                                              |                                                                                   |                                                                                     | 50.5                                                                                |                                                                                     |                                                                                     | 30.7                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 34.0                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.78                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 135.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 80.0%                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Queues

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

Future Total 2028 AM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                               | SBL                                                                                | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |                                                                                    |  |  |
| Traffic Volume (vph)   | 20                                                                                | 65                                                                                | 35                                                                                | 0                                                                                 | 135                                                                               | 1235                                                                              | 15                                                                                 | 780                                                                                 | 40                                                                                  |
| Future Volume (vph)    | 20                                                                                | 65                                                                                | 35                                                                                | 0                                                                                 | 135                                                                               | 1235                                                                              | 15                                                                                 | 780                                                                                 | 40                                                                                  |
| Lane Group Flow (vph)  | 20                                                                                | 65                                                                                | 35                                                                                | 5                                                                                 | 135                                                                               | 1270                                                                              | 0                                                                                  | 795                                                                                 | 40                                                                                  |
| Turn Type              | Perm                                                                              | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                    | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                   | 6                                                                                  |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                 | 6                                                                                  | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 31.0                                                                              | 31.0                                                                              | 31.0                                                                               | 31.0                                                                                | 31.0                                                                                |
| Total Split (s)        | 42.0                                                                              | 42.0                                                                              | 42.0                                                                              | 42.0                                                                              | 78.0                                                                              | 78.0                                                                              | 78.0                                                                               | 78.0                                                                                | 78.0                                                                                |
| Total Split (%)        | 35.0%                                                                             | 35.0%                                                                             | 35.0%                                                                             | 35.0%                                                                             | 65.0%                                                                             | 65.0%                                                                             | 65.0%                                                                              | 65.0%                                                                               | 65.0%                                                                               |
| Yellow Time (s)        | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 |
| All-Red Time (s)       | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                    | 6.0                                                                                 | 6.0                                                                                 |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                              | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.18                                                                              | 0.22                                                                              | 0.45                                                                              | 0.02                                                                              | 0.26                                                                              | 0.47                                                                              |                                                                                    | 0.35                                                                                | 0.03                                                                                |
| Control Delay          | 52.5                                                                              | 1.6                                                                               | 69.4                                                                              | 0.2                                                                               | 4.4                                                                               | 4.1                                                                               |                                                                                    | 2.0                                                                                 | 0.8                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 52.5                                                                              | 1.6                                                                               | 69.4                                                                              | 0.2                                                                               | 4.4                                                                               | 4.1                                                                               |                                                                                    | 2.0                                                                                 | 0.8                                                                                 |
| Queue Length 50th (m)  | 4.7                                                                               | 0.0                                                                               | 8.4                                                                               | 0.0                                                                               | 6.2                                                                               | 39.4                                                                              |                                                                                    | 9.2                                                                                 | 0.1                                                                                 |
| Queue Length 95th (m)  | 12.3                                                                              | 0.0                                                                               | 18.9                                                                              | 0.0                                                                               | 16.0                                                                              | 65.7                                                                              |                                                                                    | 22.0                                                                                | m0.6                                                                                |
| Internal Link Dist (m) |                                                                                   |                                                                                   |                                                                                   | 96.6                                                                              |                                                                                   | 481.5                                                                             |                                                                                    | 358.1                                                                               |                                                                                     |
| Turn Bay Length (m)    | 15.0                                                                              | 15.0                                                                              | 15.0                                                                              |                                                                                   | 70.0                                                                              |                                                                                   |                                                                                    |                                                                                     | 65.0                                                                                |
| Base Capacity (vph)    | 393                                                                               | 563                                                                               | 271                                                                               | 537                                                                               | 519                                                                               | 2680                                                                              |                                                                                    | 2283                                                                                | 1353                                                                                |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.05                                                                              | 0.12                                                                              | 0.13                                                                              | 0.01                                                                              | 0.26                                                                              | 0.47                                                                              |                                                                                    | 0.35                                                                                | 0.03                                                                                |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

#### Splits and Phases: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3



# HCM Signalized Intersection Capacity Analysis

## 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

Future Total 2028 AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |   |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)              | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1235                                                                                | 35                                                                                  | 15                                                                                  | 780                                                                                 | 40                                                                                  |
| Future Volume (vph)               | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1235                                                                                | 35                                                                                  | 15                                                                                  | 780                                                                                 | 40                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              |                                                                                   | 0.85                                                                              | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              |                                                                                   | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1653                                                                              |                                                                                   | 1413                                                                              | 1137                                                                              | 1633                                                                              |                                                                                   | 1668                                                                                | 3175                                                                                |                                                                                     |                                                                                     | 2952                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.75                                                                              |                                                                                   | 1.00                                                                              | 0.76                                                                              | 1.00                                                                              |                                                                                   | 0.35                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.92                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1313                                                                              |                                                                                   | 1413                                                                              | 906                                                                               | 1633                                                                              |                                                                                   | 614                                                                                 | 3175                                                                                |                                                                                     |                                                                                     | 2706                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1235                                                                                | 35                                                                                  | 15                                                                                  | 780                                                                                 | 40                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 60                                                                                | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                   | 1                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 7                                                                                   |
| Lane Group Flow (vph)             | 20                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                | 0                                                                                 | 0                                                                                 | 135                                                                                 | 1269                                                                                | 0                                                                                   | 0                                                                                   | 795                                                                                 | 33                                                                                  |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     |                                                                                     |
| Heavy Vehicles (%)                | 8%                                                                                | 0%                                                                                | 13%                                                                               | 57%                                                                               | 0%                                                                                | 0%                                                                                | 7%                                                                                  | 14%                                                                                 | 28%                                                                                 | 0%                                                                                  | 24%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 9.1                                                                               |                                                                                   | 9.1                                                                               | 9.1                                                                               | 9.1                                                                               |                                                                                   | 98.9                                                                                | 98.9                                                                                |                                                                                     |                                                                                     | 98.9                                                                                | 98.9                                                                                |
| Effective Green, g (s)            | 9.1                                                                               |                                                                                   | 9.1                                                                               | 9.1                                                                               | 9.1                                                                               |                                                                                   | 98.9                                                                                | 98.9                                                                                |                                                                                     |                                                                                     | 98.9                                                                                | 98.9                                                                                |
| Actuated g/C Ratio                | 0.08                                                                              |                                                                                   | 0.08                                                                              | 0.08                                                                              | 0.08                                                                              |                                                                                   | 0.82                                                                                | 0.82                                                                                |                                                                                     |                                                                                     | 0.82                                                                                | 0.82                                                                                |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 99                                                                                |                                                                                   | 107                                                                               | 68                                                                                | 123                                                                               |                                                                                   | 506                                                                                 | 2616                                                                                |                                                                                     |                                                                                     | 2230                                                                                | 1316                                                                                |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                     | c0.40                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    | 0.02                                                                              |                                                                                   | 0.00                                                                              | c0.04                                                                             |                                                                                   |                                                                                   | 0.22                                                                                |                                                                                     |                                                                                     |                                                                                     | 0.29                                                                                | 0.02                                                                                |
| v/c Ratio                         | 0.20                                                                              |                                                                                   | 0.05                                                                              | 0.51                                                                              | 0.00                                                                              |                                                                                   | 0.27                                                                                | 0.49                                                                                |                                                                                     |                                                                                     | 0.36                                                                                | 0.03                                                                                |
| Uniform Delay, d1                 | 52.0                                                                              |                                                                                   | 51.4                                                                              | 53.3                                                                              | 51.3                                                                              |                                                                                   | 2.4                                                                                 | 3.1                                                                                 |                                                                                     |                                                                                     | 2.6                                                                                 | 1.9                                                                                 |
| Progression Factor                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.55                                                                                | 0.79                                                                                |
| Incremental Delay, d2             | 1.0                                                                               |                                                                                   | 0.2                                                                               | 6.4                                                                               | 0.0                                                                               |                                                                                   | 1.3                                                                                 | 0.6                                                                                 |                                                                                     |                                                                                     | 0.4                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 53.1                                                                              |                                                                                   | 51.6                                                                              | 59.8                                                                              | 51.3                                                                              |                                                                                   | 3.7                                                                                 | 3.7                                                                                 |                                                                                     |                                                                                     | 1.8                                                                                 | 1.5                                                                                 |
| Level of Service                  | D                                                                                 |                                                                                   | D                                                                                 | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 51.9                                                                              |                                                                                   |                                                                                   | 58.7                                                                              |                                                                                   |                                                                                     | 3.7                                                                                 |                                                                                     |                                                                                     | 1.8                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 5.7                                                                               |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.49                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 80.9%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



## Queues

### 7: Dixie Road & UPS Facility Access/12173 West Access 1

Future Total 2028 AM Peak Hour

|                        | ↘     | ↙     | ↑      | ↘     | ↓     |      |
|------------------------|-------|-------|--------|-------|-------|------|
| Lane Group             | EBR   | NBL   | NBT    | SBL   | SBT   | Ø8   |
| Lane Configurations    | ↗     |       | ↗      |       | ↗     |      |
| Traffic Volume (vph)   | 5     | 60    | 1140   | 15    | 860   |      |
| Future Volume (vph)    | 5     | 60    | 1140   | 15    | 860   |      |
| Lane Group Flow (vph)  | 5     | 0     | 1210   | 0     | 890   |      |
| Turn Type              | Perm  | Perm  | NA     | Perm  | NA    |      |
| Protected Phases       |       |       | 2      |       | 6     | 8    |
| Permitted Phases       | 4     | 2     |        | 6     |       |      |
| Detector Phase         | 4     | 2     | 2      | 6     | 6     |      |
| Switch Phase           |       |       |        |       |       |      |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0    | 5.0   | 5.0   | 5.0  |
| Minimum Split (s)      | 39.0  | 31.0  | 31.0   | 31.0  | 31.0  | 39.0 |
| Total Split (s)        | 39.0  | 81.0  | 81.0   | 81.0  | 81.0  | 39.0 |
| Total Split (%)        | 32.5% | 67.5% | 67.5%  | 67.5% | 67.5% | 33%  |
| Yellow Time (s)        | 3.0   | 3.0   | 3.0    | 3.0   | 3.0   | 3.0  |
| All-Red Time (s)       | 3.0   | 3.0   | 3.0    | 3.0   | 3.0   | 3.0  |
| Lost Time Adjust (s)   | 0.0   |       | 0.0    |       | 0.0   |      |
| Total Lost Time (s)    | 6.0   |       | 6.0    |       | 6.0   |      |
| Lead/Lag               |       |       |        |       |       |      |
| Lead-Lag Optimize?     |       |       |        |       |       |      |
| Recall Mode            | None  | C-Max | C-Max  | C-Max | C-Max | None |
| v/c Ratio              | 0.02  |       | 0.81   |       | 0.60  |      |
| Control Delay          | 0.2   |       | 13.4   |       | 6.8   |      |
| Queue Delay            | 0.0   |       | 0.0    |       | 0.0   |      |
| Total Delay            | 0.2   |       | 13.4   |       | 6.8   |      |
| Queue Length 50th (m)  | 0.0   |       | 136.5  |       | 9.4   |      |
| Queue Length 95th (m)  | 0.0   |       | #293.9 |       | 238.4 |      |
| Internal Link Dist (m) |       |       | 358.1  |       | 696.2 |      |
| Turn Bay Length (m)    |       |       |        |       |       |      |
| Base Capacity (vph)    | 404   |       | 1494   |       | 1473  |      |
| Starvation Cap Reductn | 0     |       | 0      |       | 0     |      |
| Spillback Cap Reductn  | 0     |       | 0      |       | 0     |      |
| Storage Cap Reductn    | 0     |       | 0      |       | 0     |      |
| Reduced v/c Ratio      | 0.01  |       | 0.81   |       | 0.60  |      |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 7: Dixie Road & UPS Facility Access/12173 West Access 1



# HCM Signalized Intersection Capacity Analysis

## 7: Dixie Road & UPS Facility Access/12173 West Access 1

Future Total 2028 AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |                                                                                     |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)              | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1140                                                                                | 10                                                                                  | 15                                                                                  | 860                                                                                 | 15                                                                                  |
| Future Volume (vph)               | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1140                                                                                | 10                                                                                  | 15                                                                                  | 860                                                                                 | 15                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Lane Util. Factor                 |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                               |                                                                                   |                                                                                   | 0.85                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flt Protected                     |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (prot)                 |                                                                                   |                                                                                   | 998                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1674                                                                                |                                                                                     |                                                                                     | 1557                                                                                |                                                                                     |
| Flt Permitted                     |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.92                                                                                |                                                                                     |                                                                                     | 0.97                                                                                |                                                                                     |
| Satd. Flow (perm)                 |                                                                                   |                                                                                   | 998                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1539                                                                                |                                                                                     |                                                                                     | 1516                                                                                |                                                                                     |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1140                                                                                | 10                                                                                  | 15                                                                                  | 860                                                                                 | 15                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 1210                                                                                | 0                                                                                   | 0                                                                                   | 890                                                                                 | 0                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 60%                                                                               | 0%                                                                                | 0%                                                                                | 0%                                                                                | 5%                                                                                  | 15%                                                                                 | 0%                                                                                  | 0%                                                                                  | 21%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Actuated Green, G (s)             |                                                                                   |                                                                                   | 1.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 106.9                                                                               |                                                                                     |                                                                                     | 106.9                                                                               |                                                                                     |
| Effective Green, g (s)            |                                                                                   |                                                                                   | 1.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 106.9                                                                               |                                                                                     |                                                                                     | 106.9                                                                               |                                                                                     |
| Actuated g/C Ratio                |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.89                                                                                |                                                                                     |                                                                                     | 0.89                                                                                |                                                                                     |
| Clearance Time (s)                |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                |                                                                                   |                                                                                   | 9                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 1370                                                                                |                                                                                     |                                                                                     | 1350                                                                                |                                                                                     |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | c0.00                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     | c0.79                                                                               |                                                                                     |                                                                                     | 0.59                                                                                |                                                                                     |
| v/c Ratio                         |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.88                                                                                |                                                                                     |                                                                                     | 0.66                                                                                |                                                                                     |
| Uniform Delay, d1                 |                                                                                   |                                                                                   | 58.9                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 3.4                                                                                 |                                                                                     |                                                                                     | 1.7                                                                                 |                                                                                     |
| Progression Factor                |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 4.00                                                                                |                                                                                     |                                                                                     | 4.61                                                                                |                                                                                     |
| Incremental Delay, d2             |                                                                                   |                                                                                   | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 7.8                                                                                 |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |
| Delay (s)                         |                                                                                   |                                                                                   | 59.1                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 21.2                                                                                |                                                                                     |                                                                                     | 10.1                                                                                |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Approach Delay (s)                |                                                                                   | 59.1                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                     | 21.2                                                                                |                                                                                     |                                                                                     | 10.1                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 16.6                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.87                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     | Sum of lost time (s)                                                                |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 98.7%                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     | ICU Level of Service                                                                |                                                                                     | F                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Dixie Road & 12489 Site Access 1

Future Total 2028 AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 0                                                                                 | 1055                                                                              | 60                                                                                | 0                                                                                 | 860                                                                               |
| Future Volume (Veh/h)             | 0                                                                                 | 0                                                                                 | 1055                                                                              | 60                                                                                | 0                                                                                 | 860                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 0                                                                                 | 1055                                                                              | 60                                                                                | 0                                                                                 | 860                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 394                                                                               |
| pX, platoon unblocked             | 0.80                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1915                                                                              | 1055                                                                              |                                                                                   |                                                                                   | 1115                                                                              |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 2022                                                                              | 1055                                                                              |                                                                                   |                                                                                   | 1115                                                                              |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 100                                                                               |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 51                                                                                | 277                                                                               |                                                                                   |                                                                                   | 634                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 0                                                                                 | 1055                                                                              | 60                                                                                | 860                                                                               |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 0                                                                                 | 60                                                                                | 0                                                                                 |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 634                                                                               |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.00                                                                              | 0.62                                                                              | 0.04                                                                              | 0.00                                                                              |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 58.9%                                                                             |                                                                                   | ICU Level of Service                                                              | B                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

Future Total 2028 AM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |   |  |  |  |
| Traffic Volume (vph)   | 15                                                                                | 0                                                                                 | 45                                                                                | 0                                                                                 | 70                                                                                | 935                                                                               | 50                                                                                 | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| Future Volume (vph)    | 15                                                                                | 0                                                                                 | 45                                                                                | 0                                                                                 | 70                                                                                | 935                                                                               | 50                                                                                 | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| Lane Group Flow (vph)  | 15                                                                                | 30                                                                                | 45                                                                                | 20                                                                                | 70                                                                                | 935                                                                               | 50                                                                                 | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| Turn Type              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                               | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   | 4                                                                                 |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                    |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                   | 2                                                                                  | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                  | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 30.5                                                                              | 30.5                                                                              | 30.5                                                                              | 30.5                                                                              | 28.5                                                                              | 28.5                                                                              | 28.5                                                                               | 28.5                                                                                | 28.5                                                                                | 28.5                                                                                |
| Total Split (s)        | 30.5                                                                              | 30.5                                                                              | 30.5                                                                              | 30.5                                                                              | 89.5                                                                              | 89.5                                                                              | 89.5                                                                               | 89.5                                                                                | 89.5                                                                                | 89.5                                                                                |
| Total Split (%)        | 25.4%                                                                             | 25.4%                                                                             | 25.4%                                                                             | 25.4%                                                                             | 74.6%                                                                             | 74.6%                                                                             | 74.6%                                                                              | 74.6%                                                                               | 74.6%                                                                               | 74.6%                                                                               |
| Yellow Time (s)        | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                               | 4.5                                                                                | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                              | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.15                                                                              | 0.09                                                                              | 0.54                                                                              | 0.07                                                                              | 0.18                                                                              | 0.66                                                                              | 0.06                                                                               | 0.14                                                                                | 0.59                                                                                | 0.02                                                                                |
| Control Delay          | 49.7                                                                              | 0.6                                                                               | 73.4                                                                              | 0.5                                                                               | 5.6                                                                               | 11.5                                                                              | 2.0                                                                                | 7.7                                                                                 | 12.4                                                                                | 3.2                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 49.7                                                                              | 0.6                                                                               | 73.4                                                                              | 0.5                                                                               | 5.6                                                                               | 11.5                                                                              | 2.0                                                                                | 7.7                                                                                 | 12.4                                                                                | 3.2                                                                                 |
| Queue Length 50th (m)  | 3.5                                                                               | 0.0                                                                               | 10.8                                                                              | 0.0                                                                               | 4.6                                                                               | 160.9                                                                             | 0.9                                                                                | 1.8                                                                                 | 39.1                                                                                | 0.0                                                                                 |
| Queue Length 95th (m)  | 10.0                                                                              | 0.0                                                                               | 22.7                                                                              | 0.0                                                                               | m7.2                                                                              | 204.8                                                                             | m1.6                                                                               | m11.4                                                                               | 215.7                                                                               | m2.3                                                                                |
| Internal Link Dist (m) |                                                                                   | 161.0                                                                             |                                                                                   | 124.2                                                                             |                                                                                   | 369.7                                                                             |                                                                                    |                                                                                     | 813.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 20.0                                                                              |                                                                                   | 20.0                                                                              |                                                                                   | 60.0                                                                              |                                                                                   | 60.0                                                                               | 60.0                                                                                |                                                                                     | 60.0                                                                                |
| Base Capacity (vph)    | 210                                                                               | 414                                                                               | 168                                                                               | 409                                                                               | 388                                                                               | 1413                                                                              | 830                                                                                | 361                                                                                 | 1330                                                                                | 1321                                                                                |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.07                                                                              | 0.07                                                                              | 0.27                                                                              | 0.05                                                                              | 0.18                                                                              | 0.66                                                                              | 0.06                                                                               | 0.14                                                                                | 0.59                                                                                | 0.02                                                                                |

## Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2



# HCM Signalized Intersection Capacity Analysis

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

Future Total 2028 AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 15                                                                                | 0                                                                                 | 30                                                                                | 45                                                                                | 0                                                                                 | 20                                                                                | 70                                                                                  | 935                                                                                 | 50                                                                                  | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| Future Volume (vph)               | 15                                                                                | 0                                                                                 | 30                                                                                | 45                                                                                | 0                                                                                 | 20                                                                                | 70                                                                                  | 935                                                                                 | 50                                                                                  | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.0                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1342                                                                              | 1089                                                                              |                                                                                   | 1087                                                                              | 1306                                                                              |                                                                                   | 1394                                                                                | 1715                                                                                | 998                                                                                 | 1623                                                                                | 1614                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.74                                                                              | 1.00                                                                              |                                                                                   | 0.74                                                                              | 1.00                                                                              |                                                                                   | 0.32                                                                                | 1.00                                                                                | 1.00                                                                                | 0.26                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1052                                                                              | 1089                                                                              |                                                                                   | 844                                                                               | 1306                                                                              |                                                                                   | 471                                                                                 | 1715                                                                                | 998                                                                                 | 438                                                                                 | 1614                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 15                                                                                | 0                                                                                 | 30                                                                                | 45                                                                                | 0                                                                                 | 20                                                                                | 70                                                                                  | 935                                                                                 | 50                                                                                  | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 27                                                                                | 0                                                                                 | 0                                                                                 | 18                                                                                | 0                                                                                 | 0                                                                                   | 0                                                                                   | 9                                                                                   | 0                                                                                   | 0                                                                                   | 5                                                                                   |
| Lane Group Flow (vph)             | 15                                                                                | 3                                                                                 | 0                                                                                 | 45                                                                                | 2                                                                                 | 0                                                                                 | 70                                                                                  | 935                                                                                 | 41                                                                                  | 50                                                                                  | 790                                                                                 | 20                                                                                  |
| Heavy Vehicles (%)                | 33%                                                                               | 0%                                                                                | 50%                                                                               | 55%                                                                               | 0%                                                                                | 25%                                                                               | 28%                                                                                 | 12%                                                                                 | 60%                                                                                 | 10%                                                                                 | 19%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 10.7                                                                              | 10.7                                                                              |                                                                                   | 10.7                                                                              | 10.7                                                                              |                                                                                   | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                |
| Effective Green, g (s)            | 10.7                                                                              | 10.7                                                                              |                                                                                   | 10.7                                                                              | 10.7                                                                              |                                                                                   | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                |
| Actuated g/C Ratio                | 0.09                                                                              | 0.09                                                                              |                                                                                   | 0.09                                                                              | 0.09                                                                              |                                                                                   | 0.80                                                                                | 0.80                                                                                | 0.80                                                                                | 0.80                                                                                | 0.80                                                                                | 0.80                                                                                |
| Clearance Time (s)                | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 93                                                                                | 97                                                                                |                                                                                   | 75                                                                                | 116                                                                               |                                                                                   | 377                                                                                 | 1376                                                                                | 800                                                                                 | 351                                                                                 | 1295                                                                                | 1281                                                                                |
| v/s Ratio Prot                    |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                     | c0.55                                                                               |                                                                                     |                                                                                     | 0.49                                                                                |                                                                                     |
| v/s Ratio Perm                    | 0.01                                                                              |                                                                                   |                                                                                   | c0.05                                                                             |                                                                                   |                                                                                   | 0.15                                                                                |                                                                                     | 0.04                                                                                | 0.11                                                                                |                                                                                     | 0.01                                                                                |
| v/c Ratio                         | 0.16                                                                              | 0.03                                                                              |                                                                                   | 0.60                                                                              | 0.02                                                                              |                                                                                   | 0.19                                                                                | 0.68                                                                                | 0.05                                                                                | 0.14                                                                                | 0.61                                                                                | 0.02                                                                                |
| Uniform Delay, d1                 | 50.5                                                                              | 49.9                                                                              |                                                                                   | 52.6                                                                              | 49.8                                                                              |                                                                                   | 2.8                                                                                 | 5.1                                                                                 | 2.4                                                                                 | 2.6                                                                                 | 4.6                                                                                 | 2.4                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.25                                                                                | 1.54                                                                                | 1.45                                                                                | 1.78                                                                                | 1.86                                                                                | 3.13                                                                                |
| Incremental Delay, d2             | 0.8                                                                               | 0.1                                                                               |                                                                                   | 12.3                                                                              | 0.1                                                                               |                                                                                   | 0.6                                                                                 | 1.5                                                                                 | 0.1                                                                                 | 0.7                                                                                 | 1.8                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 51.3                                                                              | 50.0                                                                              |                                                                                   | 64.9                                                                              | 49.9                                                                              |                                                                                   | 4.0                                                                                 | 9.5                                                                                 | 3.6                                                                                 | 5.4                                                                                 | 10.3                                                                                | 7.4                                                                                 |
| Level of Service                  | D                                                                                 | D                                                                                 |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   | A                                                                                   | B                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 50.5                                                                              |                                                                                   |                                                                                   | 60.3                                                                              |                                                                                   |                                                                                     | 8.8                                                                                 |                                                                                     |                                                                                     | 10.0                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 11.9                                                                              |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.67                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 13.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 78.2%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 11: Dixie Road & 12861 Site Access 1

Future Total 2028 AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |                                                                                   |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 20                                                                                | 820                                                                               | 150                                                                               | 0                                                                                 | 865                                                                               |
| Future Volume (Veh/h)             | 0                                                                                 | 20                                                                                | 820                                                                               | 150                                                                               | 0                                                                                 | 865                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 20                                                                                | 820                                                                               | 150                                                                               | 0                                                                                 | 865                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 240                                                                               |
| pX, platoon unblocked             | 0.71                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1760                                                                              | 895                                                                               |                                                                                   |                                                                                   | 970                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1867                                                                              | 895                                                                               |                                                                                   |                                                                                   | 970                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.5                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 94                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 57                                                                                | 308                                                                               |                                                                                   |                                                                                   | 719                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 20                                                                                | 970                                                                               | 865                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 20                                                                                | 150                                                                               | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 308                                                                               | 1700                                                                              | 1700                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.06                                                                              | 0.57                                                                              | 0.51                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 1.7                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 17.5                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 17.5                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 62.3%                                                                             | ICU Level of Service                                                              |                                                                                   | B                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

# Queues

## 12: Dixie Road & Old School Road

Future Total 2028 AM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 60                                                                                | 340                                                                               | 75                                                                                | 185                                                                               | 145                                                                               | 45                                                                                | 220                                                                                | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| Future Volume (vph)    | 60                                                                                | 340                                                                               | 75                                                                                | 185                                                                               | 145                                                                               | 45                                                                                | 220                                                                                | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| Lane Group Flow (vph)  | 60                                                                                | 340                                                                               | 75                                                                                | 185                                                                               | 155                                                                               | 45                                                                                | 220                                                                                | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| Turn Type              | Perm                                                                              | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | NA                                                                                 | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                  |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                    | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 4                                                                                 | 3                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                  | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 9.5                                                                               | 31.5                                                                              | 31.5                                                                              | 31.5                                                                               | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                |
| Total Split (s)        | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 20.0                                                                              | 59.0                                                                              | 61.0                                                                              | 61.0                                                                               | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                |
| Total Split (%)        | 32.5%                                                                             | 32.5%                                                                             | 32.5%                                                                             | 16.7%                                                                             | 49.2%                                                                             | 50.8%                                                                             | 50.8%                                                                              | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               |
| Yellow Time (s)        | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                                | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 1.0                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                                | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               | Lag                                                                               | Lag                                                                               | Lag                                                                               | Lead                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Min                                                                             | C-Min                                                                              | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               |
| v/c Ratio              | 0.23                                                                              | 0.82                                                                              | 0.20                                                                              | 0.70                                                                              | 0.23                                                                              | 0.28                                                                              | 0.25                                                                               | 0.08                                                                                | 0.11                                                                                | 0.62                                                                                | 0.21                                                                                |
| Control Delay          | 38.8                                                                              | 60.7                                                                              | 8.9                                                                               | 37.1                                                                              | 7.3                                                                               | 20.8                                                                              | 14.1                                                                               | 5.5                                                                                 | 18.1                                                                                | 26.0                                                                                | 3.4                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 38.8                                                                              | 60.7                                                                              | 8.9                                                                               | 37.1                                                                              | 7.3                                                                               | 20.8                                                                              | 14.1                                                                               | 5.5                                                                                 | 18.1                                                                                | 26.0                                                                                | 3.4                                                                                 |
| Queue Length 50th (m)  | 12.2                                                                              | 80.4                                                                              | 0.0                                                                               | 20.1                                                                              | 4.0                                                                               | 5.8                                                                               | 27.2                                                                               | 1.9                                                                                 | 7.6                                                                                 | 101.5                                                                               | 0.4                                                                                 |
| Queue Length 95th (m)  | 23.5                                                                              | 108.6                                                                             | 11.9                                                                              | 64.4                                                                              | 52.6                                                                              | m13.2                                                                             | 58.8                                                                               | m6.4                                                                                | 17.5                                                                                | 156.9                                                                               | 13.5                                                                                |
| Internal Link Dist (m) |                                                                                   | 371.4                                                                             |                                                                                   |                                                                                   | 41.8                                                                              |                                                                                   | 216.1                                                                              |                                                                                     |                                                                                     | 261.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 75.0                                                                              |                                                                                   | 75.0                                                                              | 65.0                                                                              |                                                                                   | 75.0                                                                              |                                                                                    | 50.0                                                                                | 75.0                                                                                |                                                                                     | 75.0                                                                                |
| Base Capacity (vph)    | 325                                                                               | 509                                                                               | 451                                                                               | 282                                                                               | 785                                                                               | 161                                                                               | 885                                                                                | 762                                                                                 | 528                                                                                 | 935                                                                                 | 906                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.18                                                                              | 0.67                                                                              | 0.17                                                                              | 0.66                                                                              | 0.20                                                                              | 0.28                                                                              | 0.25                                                                               | 0.08                                                                                | 0.11                                                                                | 0.62                                                                                | 0.21                                                                                |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 12: Dixie Road & Old School Road

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| Ø2 (R)                                                                              |                                                                                     |                                                                                     | Ø3                                                                                  |                                                                                     | Ø4                                                                                  |
| 61 s                                                                                |                                                                                     |                                                                                     | 20 s                                                                                |                                                                                     | 39 s                                                                                |
|  |  |  |  |  |  |
| Ø6 (R)                                                                              |                                                                                     |                                                                                     | Ø8                                                                                  |                                                                                     |                                                                                     |
| 61 s                                                                                |                                                                                     |                                                                                     | 59 s                                                                                |                                                                                     |                                                                                     |

# HCM Signalized Intersection Capacity Analysis

## 12: Dixie Road & Old School Road

Future Total 2028 AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |   |  |  |  |  |  |
| Traffic Volume (vph)              | 60                                                                                | 340                                                                               | 75                                                                                | 185                                                                               | 145                                                                               | 10                                                                                | 45                                                                                  | 220                                                                                 | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| Future Volume (vph)               | 60                                                                                | 340                                                                               | 75                                                                                | 185                                                                               | 145                                                                               | 10                                                                                | 45                                                                                  | 220                                                                                 | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1733                                                                              | 1883                                                                              | 1465                                                                              | 1475                                                                              | 1790                                                                              |                                                                                   | 1008                                                                                | 1715                                                                                | 1413                                                                                | 1608                                                                                | 1812                                                                                | 1581                                                                                |
| Flt Permitted                     | 0.66                                                                              | 1.00                                                                              | 1.00                                                                              | 0.20                                                                              | 1.00                                                                              |                                                                                   | 0.29                                                                                | 1.00                                                                                | 1.00                                                                                | 0.60                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1201                                                                              | 1883                                                                              | 1465                                                                              | 315                                                                               | 1790                                                                              |                                                                                   | 312                                                                                 | 1715                                                                                | 1413                                                                                | 1024                                                                                | 1812                                                                                | 1581                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 60                                                                                | 340                                                                               | 75                                                                                | 185                                                                               | 145                                                                               | 10                                                                                | 45                                                                                  | 220                                                                                 | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 59                                                                                | 0                                                                                 | 2                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 29                                                                                  | 0                                                                                   | 0                                                                                   | 91                                                                                  |
| Lane Group Flow (vph)             | 60                                                                                | 340                                                                               | 17                                                                                | 185                                                                               | 153                                                                               | 0                                                                                 | 45                                                                                  | 220                                                                                 | 31                                                                                  | 60                                                                                  | 580                                                                                 | 99                                                                                  |
| Heavy Vehicles (%)                | 3%                                                                                | 2%                                                                                | 9%                                                                                | 21%                                                                               | 6%                                                                                | 10%                                                                               | 77%                                                                                 | 12%                                                                                 | 13%                                                                                 | 11%                                                                                 | 6%                                                                                  | 1%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 26.4                                                                              | 26.4                                                                              | 26.4                                                                              | 45.1                                                                              | 45.1                                                                              |                                                                                   | 61.9                                                                                | 61.9                                                                                | 61.9                                                                                | 61.9                                                                                | 61.9                                                                                | 61.9                                                                                |
| Effective Green, g (s)            | 26.4                                                                              | 26.4                                                                              | 26.4                                                                              | 45.1                                                                              | 45.1                                                                              |                                                                                   | 61.9                                                                                | 61.9                                                                                | 61.9                                                                                | 61.9                                                                                | 61.9                                                                                | 61.9                                                                                |
| Actuated g/C Ratio                | 0.22                                                                              | 0.22                                                                              | 0.22                                                                              | 0.38                                                                              | 0.38                                                                              |                                                                                   | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                |
| Clearance Time (s)                | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 264                                                                               | 414                                                                               | 322                                                                               | 260                                                                               | 672                                                                               |                                                                                   | 160                                                                                 | 884                                                                                 | 728                                                                                 | 528                                                                                 | 934                                                                                 | 815                                                                                 |
| v/s Ratio Prot                    |                                                                                   | c0.18                                                                             |                                                                                   | c0.09                                                                             | 0.09                                                                              |                                                                                   |                                                                                     | 0.13                                                                                |                                                                                     |                                                                                     | c0.32                                                                               |                                                                                     |
| v/s Ratio Perm                    | 0.05                                                                              |                                                                                   | 0.01                                                                              | 0.18                                                                              |                                                                                   |                                                                                   | 0.14                                                                                |                                                                                     | 0.02                                                                                | 0.06                                                                                |                                                                                     | 0.06                                                                                |
| v/c Ratio                         | 0.23                                                                              | 0.82                                                                              | 0.05                                                                              | 0.71                                                                              | 0.23                                                                              |                                                                                   | 0.28                                                                                | 0.25                                                                                | 0.04                                                                                | 0.11                                                                                | 0.62                                                                                | 0.12                                                                                |
| Uniform Delay, d1                 | 38.4                                                                              | 44.6                                                                              | 36.9                                                                              | 28.7                                                                              | 25.6                                                                              |                                                                                   | 16.5                                                                                | 16.1                                                                                | 14.4                                                                                | 14.9                                                                                | 20.7                                                                                | 15.0                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.98                                                                              | 0.27                                                                              |                                                                                   | 0.82                                                                                | 0.75                                                                                | 1.46                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 0.4                                                                               | 12.3                                                                              | 0.1                                                                               | 8.8                                                                               | 0.2                                                                               |                                                                                   | 3.4                                                                                 | 0.5                                                                                 | 0.1                                                                                 | 0.4                                                                                 | 3.1                                                                                 | 0.3                                                                                 |
| Delay (s)                         | 38.9                                                                              | 56.9                                                                              | 37.0                                                                              | 36.8                                                                              | 7.2                                                                               |                                                                                   | 16.8                                                                                | 12.7                                                                                | 21.0                                                                                | 15.4                                                                                | 23.8                                                                                | 15.3                                                                                |
| Level of Service                  | D                                                                                 | E                                                                                 | D                                                                                 | D                                                                                 | A                                                                                 |                                                                                   | B                                                                                   | B                                                                                   | C                                                                                   | B                                                                                   | C                                                                                   | B                                                                                   |
| Approach Delay (s)                |                                                                                   | 51.5                                                                              |                                                                                   |                                                                                   | 23.3                                                                              |                                                                                   |                                                                                     | 14.8                                                                                |                                                                                     |                                                                                     | 21.2                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 27.8                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.69                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     |                                                                                     | 17.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 82.4%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# HCM Unsignalized Intersection Capacity Analysis

## 13: 12861 Site Access 2 & Old School Road

Future Total 2028 AM Peak Hour

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               | ↑↑                                                                                |                                                                                   |                                                                                   | ↑↑                                                                                |                                                                                   | ↑                                                                                 |
| Traffic Volume (veh/h)            | 415                                                                               | 40                                                                                | 0                                                                                 | 345                                                                               | 0                                                                                 | 5                                                                                 |
| Future Volume (Veh/h)             | 415                                                                               | 40                                                                                | 0                                                                                 | 345                                                                               | 0                                                                                 | 5                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 415                                                                               | 40                                                                                | 0                                                                                 | 345                                                                               | 0                                                                                 | 5                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               | 66                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 455                                                                               |                                                                                   | 608                                                                               | 228                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 455                                                                               |                                                                                   | 608                                                                               | 228                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.8                                                                               | 6.9                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 100                                                                               |                                                                                   | 100                                                                               | 99                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 1116                                                                              |                                                                                   | 432                                                                               | 781                                                                               |
| Direction, Lane #                 | EB 1                                                                              | EB 2                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              |                                                                                   |
| Volume Total                      | 277                                                                               | 178                                                                               | 172                                                                               | 172                                                                               | 5                                                                                 |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |
| Volume Right                      | 0                                                                                 | 40                                                                                | 0                                                                                 | 0                                                                                 | 5                                                                                 |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 1700                                                                              | 781                                                                               |                                                                                   |
| Volume to Capacity                | 0.16                                                                              | 0.10                                                                              | 0.10                                                                              | 0.10                                                                              | 0.01                                                                              |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.2                                                                               |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 9.6                                                                               |                                                                                   |
| Lane LOS                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   | 9.6                                                                               |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 22.7%                                                                             |                                                                                   | ICU Level of Service                                                              | A                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

### 14: 12861 Site Access 3 & Old School Road

Future Total 2028 AM Peak Hour

|                        | →     | ↘     | ↙      | ←     | ↖     |
|------------------------|-------|-------|--------|-------|-------|
| Lane Group             | EBT   | EBR   | WBL    | WBT   | NBL   |
| Lane Configurations    | ↑↑    | ↑     | ↘      | ↑↑    | ↘     |
| Traffic Volume (vph)   | 415   | 5     | 30     | 280   | 65    |
| Future Volume (vph)    | 415   | 5     | 30     | 280   | 65    |
| Lane Group Flow (vph)  | 415   | 5     | 30     | 280   | 70    |
| Turn Type              | NA    | Perm  | custom | NA    | Prot  |
| Protected Phases       | 4     |       |        |       | 2     |
| Permitted Phases       |       | 4     | 8      | 8     |       |
| Detector Phase         | 4     | 4     | 8      | 8     | 2     |
| Switch Phase           |       |       |        |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0    | 5.0   | 5.0   |
| Minimum Split (s)      | 28.5  | 28.5  | 31.5   | 31.5  | 31.5  |
| Total Split (s)        | 60.0  | 60.0  | 60.0   | 60.0  | 60.0  |
| Total Split (%)        | 50.0% | 50.0% | 50.0%  | 50.0% | 50.0% |
| Yellow Time (s)        | 4.5   | 4.5   | 4.5    | 4.5   | 4.0   |
| All-Red Time (s)       | 2.0   | 2.0   | 2.0    | 2.0   | 2.5   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5    | 6.5   | 6.5   |
| Lead/Lag               |       |       |        |       |       |
| Lead-Lag Optimize?     |       |       |        |       |       |
| Recall Mode            | None  | None  | None   | None  | C-Min |
| v/c Ratio              | 0.71  | 0.04  | 0.36   | 0.47  | 0.08  |
| Control Delay          | 37.8  | 10.0  | 56.2   | 47.7  | 5.4   |
| Queue Delay            | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   |
| Total Delay            | 37.8  | 10.0  | 56.2   | 47.7  | 5.4   |
| Queue Length 50th (m)  | 56.3  | 0.7   | 6.7    | 33.5  | 4.1   |
| Queue Length 95th (m)  | 63.3  | m0.8  | 16.4   | 45.4  | 10.0  |
| Internal Link Dist (m) | 433.3 |       |        | 157.0 | 183.7 |
| Turn Bay Length (m)    |       | 50.0  | 95.0   |       |       |
| Base Capacity (vph)    | 1611  | 358   | 228    | 1627  | 828   |
| Starvation Cap Reductn | 0     | 0     | 0      | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0      | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0      | 0     | 0     |
| Reduced v/c Ratio      | 0.26  | 0.01  | 0.13   | 0.17  | 0.08  |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

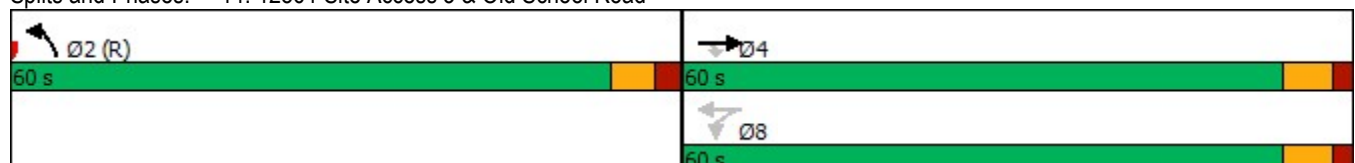
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: 12861 Site Access 3 & Old School Road



# HCM Signalized Intersection Capacity Analysis

14: 12861 Site Access 3 & Old School Road

Future Total 2028 AM Peak Hour

|                                   | →     | ↘    | ↙      | ←    | ↖                         | ↗    |
|-----------------------------------|-------|------|--------|------|---------------------------|------|
| Movement                          | EBT   | EBR  | WBL    | WBT  | NBL                       | NBR  |
| Lane Configurations               | ↑↑    | ↑    | ↓      | ↑↑   | ↓                         |      |
| Traffic Volume (vph)              | 415   | 5    | 30     | 280  | 65                        | 5    |
| Future Volume (vph)               | 415   | 5    | 30     | 280  | 65                        | 5    |
| Ideal Flow (vphpl)                | 1900  | 1900 | 1900   | 1900 | 1900                      | 1900 |
| Lane Width                        | 3.7   | 3.5  | 3.5    | 3.7  | 3.5                       | 3.5  |
| Total Lost time (s)               | 6.5   | 6.5  | 6.5    | 6.5  | 6.5                       |      |
| Lane Util. Factor                 | 0.95  | 1.00 | 1.00   | 0.95 | 1.00                      |      |
| Frt                               | 1.00  | 0.85 | 1.00   | 1.00 | 0.99                      |      |
| Flt Protected                     | 1.00  | 1.00 | 0.95   | 1.00 | 0.96                      |      |
| Satd. Flow (prot)                 | 3614  | 799  | 1539   | 3650 | 1135                      |      |
| Flt Permitted                     | 1.00  | 1.00 | 0.32   | 1.00 | 0.96                      |      |
| Satd. Flow (perm)                 | 3614  | 799  | 512    | 3650 | 1135                      |      |
| Peak-hour factor, PHF             | 1.00  | 1.00 | 1.00   | 1.00 | 1.00                      | 1.00 |
| Adj. Flow (vph)                   | 415   | 5    | 30     | 280  | 65                        | 5    |
| RTOR Reduction (vph)              | 0     | 4    | 0      | 0    | 1                         | 0    |
| Lane Group Flow (vph)             | 415   | 1    | 30     | 280  | 69                        | 0    |
| Heavy Vehicles (%)                | 1%    | 100% | 16%    | 0%   | 61%                       | 0%   |
| Turn Type                         | NA    | Perm | custom | NA   | Prot                      |      |
| Protected Phases                  | 4     |      |        |      | 2                         |      |
| Permitted Phases                  |       | 4    | 8      | 8    |                           |      |
| Actuated Green, G (s)             | 19.5  | 19.5 | 19.5   | 19.5 | 87.5                      |      |
| Effective Green, g (s)            | 19.5  | 19.5 | 19.5   | 19.5 | 87.5                      |      |
| Actuated g/C Ratio                | 0.16  | 0.16 | 0.16   | 0.16 | 0.73                      |      |
| Clearance Time (s)                | 6.5   | 6.5  | 6.5    | 6.5  | 6.5                       |      |
| Vehicle Extension (s)             | 3.0   | 3.0  | 3.0    | 3.0  | 3.0                       |      |
| Lane Grp Cap (vph)                | 587   | 129  | 83     | 593  | 827                       |      |
| v/s Ratio Prot                    | c0.11 |      |        |      | c0.06                     |      |
| v/s Ratio Perm                    |       | 0.00 | 0.06   | 0.08 |                           |      |
| v/c Ratio                         | 0.71  | 0.01 | 0.36   | 0.47 | 0.08                      |      |
| Uniform Delay, d1                 | 47.5  | 42.1 | 44.7   | 45.6 | 4.7                       |      |
| Progression Factor                | 0.67  | 0.41 | 1.00   | 1.00 | 1.00                      |      |
| Incremental Delay, d2             | 3.4   | 0.0  | 2.7    | 0.6  | 0.2                       |      |
| Delay (s)                         | 35.3  | 17.1 | 47.4   | 46.2 | 4.9                       |      |
| Level of Service                  | D     | B    | D      | D    | A                         |      |
| Approach Delay (s)                | 35.1  |      |        | 46.3 | 4.9                       |      |
| Approach LOS                      | D     |      |        | D    | A                         |      |
| <b>Intersection Summary</b>       |       |      |        |      |                           |      |
| HCM 2000 Control Delay            |       |      | 36.8   |      | HCM 2000 Level of Service | D    |
| HCM 2000 Volume to Capacity ratio |       |      | 0.20   |      |                           |      |
| Actuated Cycle Length (s)         |       |      | 120.0  |      | Sum of lost time (s)      | 13.0 |
| Intersection Capacity Utilization |       |      | 36.1%  |      | ICU Level of Service      | A    |
| Analysis Period (min)             |       |      | 15     |      |                           |      |
| c Critical Lane Group             |       |      |        |      |                           |      |

# HCM Unsignalized Intersection Capacity Analysis

## 15: Bramalea Road & Old School Road

Future Total 2028 AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 20                                                                                | 310                                                                               | 85                                                                                | 25                                                                                | 210                                                                               | 0                                                                                 | 40                                                                                 | 75                                                                                  | 20                                                                                  | 5                                                                                   | 155                                                                                 | 60                                                                                  |
| Future Volume (vph)               | 20                                                                                | 310                                                                               | 85                                                                                | 25                                                                                | 210                                                                               | 0                                                                                 | 40                                                                                 | 75                                                                                  | 20                                                                                  | 5                                                                                   | 155                                                                                 | 60                                                                                  |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Hourly flow rate (vph)            | 20                                                                                | 310                                                                               | 85                                                                                | 25                                                                                | 210                                                                               | 0                                                                                 | 40                                                                                 | 75                                                                                  | 20                                                                                  | 5                                                                                   | 155                                                                                 | 60                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 415                                                                               | 235                                                                               | 135                                                                               | 220                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 20                                                                                | 25                                                                                | 40                                                                                | 5                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 85                                                                                | 0                                                                                 | 20                                                                                | 60                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | -0.06                                                                             | 0.07                                                                              | 0.06                                                                              | -0.09                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 5.4                                                                               | 5.8                                                                               | 6.2                                                                               | 5.9                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.62                                                                              | 0.38                                                                              | 0.23                                                                              | 0.36                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 639                                                                               | 572                                                                               | 494                                                                               | 545                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 16.6                                                                              | 12.2                                                                              | 11.2                                                                              | 12.2                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 16.6                                                                              | 12.2                                                                              | 11.2                                                                              | 12.2                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   |                                                                                   | 13.9                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 55.1%                                                                             | ICU Level of Service                                                              | B                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Queues

## 1: Dixie Road & Mayfield Road

Future Total 2028 PM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 575                                                                               | 1355                                                                              | 180                                                                               | 60                                                                                | 1350                                                                              | 115                                                                               | 210                                                                                | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| Future Volume (vph)    | 575                                                                               | 1355                                                                              | 180                                                                               | 60                                                                                | 1350                                                                              | 115                                                                               | 210                                                                                | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| Lane Group Flow (vph)  | 575                                                                               | 1355                                                                              | 180                                                                               | 60                                                                                | 1350                                                                              | 115                                                                               | 210                                                                                | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| Turn Type              | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                              | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases       | 5                                                                                 | 2                                                                                 | 7                                                                                 | 1                                                                                 | 6                                                                                 | 3                                                                                 | 7                                                                                  | 4                                                                                   | 1                                                                                   | 3                                                                                   | 8                                                                                   | 5                                                                                   |
| Permitted Phases       |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                  |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Detector Phase         | 5                                                                                 | 2                                                                                 | 7                                                                                 | 1                                                                                 | 6                                                                                 | 3                                                                                 | 7                                                                                  | 4                                                                                   | 1                                                                                   | 3                                                                                   | 8                                                                                   | 5                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 8.0                                                                               | 5.0                                                                               | 5.0                                                                               | 8.0                                                                               | 5.0                                                                               | 5.0                                                                                | 8.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 8.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 9.5                                                                               | 44.9                                                                              | 9.5                                                                               | 9.5                                                                               | 44.9                                                                              | 9.5                                                                               | 9.5                                                                                | 47.9                                                                                | 9.5                                                                                 | 9.5                                                                                 | 47.9                                                                                | 9.5                                                                                 |
| Total Split (s)        | 30.0                                                                              | 65.4                                                                              | 12.1                                                                              | 9.6                                                                               | 45.0                                                                              | 12.1                                                                              | 12.1                                                                               | 47.9                                                                                | 9.6                                                                                 | 12.1                                                                                | 47.9                                                                                | 30.0                                                                                |
| Total Split (%)        | 22.2%                                                                             | 48.4%                                                                             | 9.0%                                                                              | 7.1%                                                                              | 33.3%                                                                             | 9.0%                                                                              | 9.0%                                                                               | 35.5%                                                                               | 7.1%                                                                                | 9.0%                                                                                | 35.5%                                                                               | 22.2%                                                                               |
| Yellow Time (s)        | 3.5                                                                               | 4.6                                                                               | 3.5                                                                               | 3.5                                                                               | 4.6                                                                               | 3.5                                                                               | 3.5                                                                                | 4.6                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.6                                                                                 | 3.5                                                                                 |
| All-Red Time (s)       | 1.0                                                                               | 2.3                                                                               | 1.0                                                                               | 1.0                                                                               | 2.3                                                                               | 1.0                                                                               | 1.0                                                                                | 2.3                                                                                 | 1.0                                                                                 | 1.0                                                                                 | 2.3                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)   | -1.0                                                                              | 0.0                                                                               | 0.0                                                                               | -1.0                                                                              | 0.0                                                                               | 0.0                                                                               | -1.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | -1.0                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                                | 6.9                                                                                 | 4.5                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Lead/Lag               | Lead                                                                              | Lag                                                                               | Lead                                                                              | Lead                                                                              | Lag                                                                               | Lead                                                                              | Lead                                                                               | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 | Lead                                                                                |
| Lead-Lag Optimize?     | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                                | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| Recall Mode            | None                                                                              | C-Min                                                                             | None                                                                              | None                                                                              | C-Min                                                                             | None                                                                              | None                                                                               | None                                                                                | None                                                                                | None                                                                                | None                                                                                | None                                                                                |
| v/c Ratio              | 0.62                                                                              | 0.47                                                                              | 0.14                                                                              | 0.28                                                                              | 0.96                                                                              | 0.15                                                                              | 0.92                                                                               | 0.56                                                                                | 0.09                                                                                | 0.83                                                                                | 0.68                                                                                | 0.93                                                                                |
| Control Delay          | 38.8                                                                              | 15.6                                                                              | 0.4                                                                               | 19.2                                                                              | 64.4                                                                              | 8.0                                                                               | 89.7                                                                               | 60.1                                                                                | 2.2                                                                                 | 75.7                                                                                | 64.3                                                                                | 21.0                                                                                |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 38.8                                                                              | 15.6                                                                              | 0.4                                                                               | 19.2                                                                              | 64.4                                                                              | 8.0                                                                               | 89.7                                                                               | 60.1                                                                                | 2.2                                                                                 | 75.7                                                                                | 64.3                                                                                | 21.0                                                                                |
| Queue Length 50th (m)  | 67.3                                                                              | 74.2                                                                              | 0.0                                                                               | 5.6                                                                               | 137.4                                                                             | 8.3                                                                               | 51.4                                                                               | 35.2                                                                                | 0.0                                                                                 | 43.9                                                                                | 42.2                                                                                | 82.0                                                                                |
| Queue Length 95th (m)  | 92.9                                                                              | 96.8                                                                              | 2.3                                                                               | 10.1                                                                              | #170.2                                                                            | 16.4                                                                              | #89.9                                                                              | 48.2                                                                                | 4.4                                                                                 | #72.5                                                                               | 56.4                                                                                | #376.8                                                                              |
| Internal Link Dist (m) |                                                                                   | 980.1                                                                             |                                                                                   |                                                                                   | 272.1                                                                             |                                                                                   |                                                                                    | 844.0                                                                               |                                                                                     |                                                                                     | 481.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 115.0                                                                             |                                                                                   | 75.0                                                                              | 115.0                                                                             |                                                                                   | 110.0                                                                             | 115.0                                                                              |                                                                                     | 65.0                                                                                | 115.0                                                                               |                                                                                     | 135.0                                                                               |
| Base Capacity (vph)    | 920                                                                               | 2904                                                                              | 1264                                                                              | 211                                                                               | 1401                                                                              | 755                                                                               | 228                                                                                | 1097                                                                                | 667                                                                                 | 218                                                                                 | 1066                                                                                | 1198                                                                                |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                  | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.63                                                                              | 0.47                                                                              | 0.14                                                                              | 0.28                                                                              | 0.96                                                                              | 0.15                                                                              | 0.92                                                                               | 0.23                                                                                | 0.09                                                                                | 0.83                                                                                | 0.28                                                                                | 0.93                                                                                |

### Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Dixie Road & Mayfield Road

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  |
| 9.6 s                                                                               | 65.4 s                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 12.1 s                                                                              | 47.9 s                                                                              |                                                                                     |                                                                                      |                                                                                       |                                                                                       |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 30 s                                                                                | 45 s                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 12.1 s                                                                              | 47.9 s                                                                              |                                                                                     |                                                                                      |                                                                                       |                                                                                       |

# HCM Signalized Intersection Capacity Analysis

## 1: Dixie Road & Mayfield Road

Future Total 2028 PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)              | 575                                                                               | 1355                                                                              | 180                                                                               | 60                                                                                | 1350                                                                              | 115                                                                               | 210                                                                                 | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| Future Volume (vph)               | 575                                                                               | 1355                                                                              | 180                                                                               | 60                                                                                | 1350                                                                              | 115                                                                               | 210                                                                                 | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Lane Util. Factor                 | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                | 1.00                                                                                | 1.00                                                                                | 0.99                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 2456                                                                              | 4725                                                                              | 1475                                                                              | 1767                                                                              | 4948                                                                              | 1298                                                                              | 1731                                                                                | 3614                                                                                | 1289                                                                                | 1510                                                                                | 3510                                                                                | 1364                                                                                |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.19                                                                              | 1.00                                                                              | 1.00                                                                              | 0.43                                                                                | 1.00                                                                                | 1.00                                                                                | 0.52                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 2456                                                                              | 4725                                                                              | 1475                                                                              | 352                                                                               | 4948                                                                              | 1298                                                                              | 792                                                                                 | 3614                                                                                | 1289                                                                                | 820                                                                                 | 3510                                                                                | 1364                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 575                                                                               | 1355                                                                              | 180                                                                               | 60                                                                                | 1350                                                                              | 115                                                                               | 210                                                                                 | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 38                                                                                | 0                                                                                 | 0                                                                                 | 26                                                                                | 0                                                                                   | 0                                                                                   | 33                                                                                  | 0                                                                                   | 0                                                                                   | 58                                                                                  |
| Lane Group Flow (vph)             | 575                                                                               | 1355                                                                              | 142                                                                               | 60                                                                                | 1350                                                                              | 89                                                                                | 210                                                                                 | 250                                                                                 | 27                                                                                  | 180                                                                                 | 295                                                                                 | 1062                                                                                |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   | 10                                                                                | 10                                                                                |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 41%                                                                               | 11%                                                                               | 6%                                                                                | 1%                                                                                | 6%                                                                                | 23%                                                                               | 3%                                                                                  | 1%                                                                                  | 22%                                                                                 | 18%                                                                                 | 4%                                                                                  | 16%                                                                                 |
| Turn Type                         | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                               | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases                  | 5                                                                                 | 2                                                                                 | 7                                                                                 | 1                                                                                 | 6                                                                                 | 3                                                                                 | 7                                                                                   | 4                                                                                   | 1                                                                                   | 3                                                                                   | 8                                                                                   | 5                                                                                   |
| Permitted Phases                  |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                   |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Actuated Green, G (s)             | 49.6                                                                              | 82.0                                                                              | 106.4                                                                             | 44.0                                                                              | 38.2                                                                              | 62.6                                                                              | 24.4                                                                                | 16.8                                                                                | 60.8                                                                                | 24.4                                                                                | 16.8                                                                                | 109.1                                                                               |
| Effective Green, g (s)            | 50.6                                                                              | 82.0                                                                              | 106.4                                                                             | 46.0                                                                              | 38.2                                                                              | 62.6                                                                              | 26.4                                                                                | 16.8                                                                                | 60.8                                                                                | 26.4                                                                                | 16.8                                                                                | 109.1                                                                               |
| Actuated g/C Ratio                | 0.37                                                                              | 0.61                                                                              | 0.79                                                                              | 0.34                                                                              | 0.28                                                                              | 0.46                                                                              | 0.20                                                                                | 0.12                                                                                | 0.45                                                                                | 0.20                                                                                | 0.12                                                                                | 0.81                                                                                |
| Clearance Time (s)                | 4.5                                                                               | 6.9                                                                               | 4.5                                                                               | 4.5                                                                               | 6.9                                                                               | 4.5                                                                               | 4.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 920                                                                               | 2870                                                                              | 1211                                                                              | 191                                                                               | 1400                                                                              | 645                                                                               | 214                                                                                 | 449                                                                                 | 580                                                                                 | 204                                                                                 | 436                                                                                 | 1102                                                                                |
| v/s Ratio Prot                    | 0.23                                                                              | 0.29                                                                              | 0.01                                                                              | 0.02                                                                              | 0.27                                                                              | 0.01                                                                              | c0.06                                                                               | 0.07                                                                                | 0.00                                                                                | 0.06                                                                                | 0.08                                                                                | c0.35                                                                               |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.09                                                                              | 0.09                                                                              |                                                                                   | 0.06                                                                              | c0.13                                                                               |                                                                                     | 0.02                                                                                | 0.12                                                                                |                                                                                     | 0.42                                                                                |
| v/c Ratio                         | 0.62                                                                              | 0.47                                                                              | 0.12                                                                              | 0.31                                                                              | 0.96                                                                              | 0.14                                                                              | 0.98                                                                                | 0.56                                                                                | 0.05                                                                                | 0.88                                                                                | 0.68                                                                                | 0.96                                                                                |
| Uniform Delay, d1                 | 34.5                                                                              | 14.6                                                                              | 3.3                                                                               | 35.4                                                                              | 47.7                                                                              | 20.7                                                                              | 52.5                                                                                | 55.6                                                                                | 20.8                                                                                | 51.4                                                                                | 56.5                                                                                | 11.2                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 1.3                                                                               | 0.6                                                                               | 0.0                                                                               | 0.9                                                                               | 16.9                                                                              | 0.1                                                                               | 55.9                                                                                | 1.5                                                                                 | 0.0                                                                                 | 33.0                                                                                | 4.1                                                                                 | 18.8                                                                                |
| Delay (s)                         | 35.8                                                                              | 15.1                                                                              | 3.4                                                                               | 36.3                                                                              | 64.6                                                                              | 20.8                                                                              | 108.4                                                                               | 57.1                                                                                | 20.9                                                                                | 84.3                                                                                | 60.6                                                                                | 30.0                                                                                |
| Level of Service                  | D                                                                                 | B                                                                                 | A                                                                                 | D                                                                                 | E                                                                                 | C                                                                                 | F                                                                                   | E                                                                                   | C                                                                                   | F                                                                                   | E                                                                                   | C                                                                                   |
| Approach Delay (s)                |                                                                                   | 19.8                                                                              |                                                                                   |                                                                                   | 60.2                                                                              |                                                                                   |                                                                                     | 73.7                                                                                |                                                                                     |                                                                                     | 41.8                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | B                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 41.5                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 1.02                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 135.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 120.4%                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Queues

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

Future Total 2028 PM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                               | SBL                                                                                | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |                                                                                    |  |  |
| Traffic Volume (vph)   | 45                                                                                | 105                                                                               | 70                                                                                | 0                                                                                 | 35                                                                                | 855                                                                               | 5                                                                                  | 1410                                                                                | 10                                                                                  |
| Future Volume (vph)    | 45                                                                                | 105                                                                               | 70                                                                                | 0                                                                                 | 35                                                                                | 855                                                                               | 5                                                                                  | 1410                                                                                | 10                                                                                  |
| Lane Group Flow (vph)  | 45                                                                                | 105                                                                               | 70                                                                                | 5                                                                                 | 35                                                                                | 870                                                                               | 0                                                                                  | 1415                                                                                | 10                                                                                  |
| Turn Type              | Perm                                                                              | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                    | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                   | 6                                                                                  |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                 | 6                                                                                  | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 31.0                                                                              | 31.0                                                                              | 31.0                                                                               | 31.0                                                                                | 31.0                                                                                |
| Total Split (s)        | 42.0                                                                              | 42.0                                                                              | 42.0                                                                              | 42.0                                                                              | 78.0                                                                              | 78.0                                                                              | 78.0                                                                               | 78.0                                                                                | 78.0                                                                                |
| Total Split (%)        | 35.0%                                                                             | 35.0%                                                                             | 35.0%                                                                             | 35.0%                                                                             | 65.0%                                                                             | 65.0%                                                                             | 65.0%                                                                              | 65.0%                                                                               | 65.0%                                                                               |
| Yellow Time (s)        | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 |
| All-Red Time (s)       | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                    | 6.0                                                                                 | 6.0                                                                                 |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                              | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.30                                                                              | 0.52                                                                              | 0.59                                                                              | 0.02                                                                              | 0.16                                                                              | 0.38                                                                              |                                                                                    | 0.59                                                                                | 0.01                                                                                |
| Control Delay          | 52.3                                                                              | 37.6                                                                              | 69.2                                                                              | 0.0                                                                               | 6.0                                                                               | 4.6                                                                               |                                                                                    | 6.0                                                                                 | 0.4                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 52.3                                                                              | 37.6                                                                              | 69.2                                                                              | 0.0                                                                               | 6.0                                                                               | 4.6                                                                               |                                                                                    | 6.0                                                                                 | 0.4                                                                                 |
| Queue Length 50th (m)  | 10.5                                                                              | 14.0                                                                              | 16.8                                                                              | 0.0                                                                               | 1.7                                                                               | 27.4                                                                              |                                                                                    | 74.9                                                                                | 0.0                                                                                 |
| Queue Length 95th (m)  | 21.4                                                                              | 30.7                                                                              | 31.3                                                                              | 0.0                                                                               | 6.3                                                                               | 46.6                                                                              |                                                                                    | m39.5                                                                               | m0.0                                                                                |
| Internal Link Dist (m) |                                                                                   |                                                                                   |                                                                                   | 96.6                                                                              |                                                                                   | 481.5                                                                             |                                                                                    | 358.1                                                                               |                                                                                     |
| Turn Bay Length (m)    | 15.0                                                                              | 15.0                                                                              | 15.0                                                                              |                                                                                   | 70.0                                                                              |                                                                                   |                                                                                    |                                                                                     | 65.0                                                                                |
| Base Capacity (vph)    | 425                                                                               | 487                                                                               | 333                                                                               | 607                                                                               | 213                                                                               | 2286                                                                              |                                                                                    | 2415                                                                                | 1230                                                                                |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.11                                                                              | 0.22                                                                              | 0.21                                                                              | 0.01                                                                              | 0.16                                                                              | 0.38                                                                              |                                                                                    | 0.59                                                                                | 0.01                                                                                |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

#### Splits and Phases: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3



# HCM Signalized Intersection Capacity Analysis

## 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

Future Total 2028 PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |   |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)              | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 855                                                                                 | 15                                                                                  | 5                                                                                   | 1410                                                                                | 10                                                                                  |
| Future Volume (vph)               | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 855                                                                                 | 15                                                                                  | 5                                                                                   | 1410                                                                                | 10                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.97                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              |                                                                                   | 0.85                                                                              | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              |                                                                                   | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              |                                                                                   | 1521                                                                              | 1394                                                                              | 1633                                                                              |                                                                                   | 1537                                                                                | 2887                                                                                |                                                                                     |                                                                                     | 3203                                                                                | 1546                                                                                |
| Flt Permitted                     | 0.75                                                                              |                                                                                   | 1.00                                                                              | 0.76                                                                              | 1.00                                                                              |                                                                                   | 0.17                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1418                                                                              |                                                                                   | 1521                                                                              | 1111                                                                              | 1633                                                                              |                                                                                   | 269                                                                                 | 2887                                                                                |                                                                                     |                                                                                     | 3051                                                                                | 1546                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 855                                                                                 | 15                                                                                  | 5                                                                                   | 1410                                                                                | 10                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 40                                                                                | 0                                                                                 | 4                                                                                 | 0                                                                                 | 0                                                                                   | 1                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 2                                                                                   |
| Lane Group Flow (vph)             | 45                                                                                | 0                                                                                 | 65                                                                                | 70                                                                                | 1                                                                                 | 0                                                                                 | 35                                                                                  | 869                                                                                 | 0                                                                                   | 0                                                                                   | 1415                                                                                | 8                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 5%                                                                                | 28%                                                                               | 0%                                                                                | 0%                                                                                | 16%                                                                                 | 26%                                                                                 | 33%                                                                                 | 0%                                                                                  | 14%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 12.9                                                                              |                                                                                   | 12.9                                                                              | 12.9                                                                              | 12.9                                                                              |                                                                                   | 95.1                                                                                | 95.1                                                                                |                                                                                     |                                                                                     | 95.1                                                                                | 95.1                                                                                |
| Effective Green, g (s)            | 12.9                                                                              |                                                                                   | 12.9                                                                              | 12.9                                                                              | 12.9                                                                              |                                                                                   | 95.1                                                                                | 95.1                                                                                |                                                                                     |                                                                                     | 95.1                                                                                | 95.1                                                                                |
| Actuated g/C Ratio                | 0.11                                                                              |                                                                                   | 0.11                                                                              | 0.11                                                                              | 0.11                                                                              |                                                                                   | 0.79                                                                                | 0.79                                                                                |                                                                                     |                                                                                     | 0.79                                                                                | 0.79                                                                                |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 152                                                                               |                                                                                   | 163                                                                               | 119                                                                               | 175                                                                               |                                                                                   | 213                                                                                 | 2287                                                                                |                                                                                     |                                                                                     | 2417                                                                                | 1225                                                                                |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                     | 0.30                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    | 0.03                                                                              |                                                                                   | 0.04                                                                              | c0.06                                                                             |                                                                                   |                                                                                   | 0.13                                                                                |                                                                                     |                                                                                     |                                                                                     | c0.46                                                                               | 0.01                                                                                |
| v/c Ratio                         | 0.30                                                                              |                                                                                   | 0.40                                                                              | 0.59                                                                              | 0.00                                                                              |                                                                                   | 0.16                                                                                | 0.38                                                                                |                                                                                     |                                                                                     | 0.59                                                                                | 0.01                                                                                |
| Uniform Delay, d1                 | 49.4                                                                              |                                                                                   | 49.9                                                                              | 51.0                                                                              | 47.8                                                                              |                                                                                   | 3.0                                                                                 | 3.7                                                                                 |                                                                                     |                                                                                     | 4.8                                                                                 | 2.6                                                                                 |
| Progression Factor                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.16                                                                                |
| Incremental Delay, d2             | 1.1                                                                               |                                                                                   | 1.6                                                                               | 7.2                                                                               | 0.0                                                                               |                                                                                   | 1.7                                                                                 | 0.5                                                                                 |                                                                                     |                                                                                     | 0.4                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 50.5                                                                              |                                                                                   | 51.5                                                                              | 58.3                                                                              | 47.8                                                                              |                                                                                   | 4.6                                                                                 | 4.2                                                                                 |                                                                                     |                                                                                     | 5.3                                                                                 | 3.0                                                                                 |
| Level of Service                  | D                                                                                 |                                                                                   | D                                                                                 | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 51.2                                                                              |                                                                                   |                                                                                   | 57.6                                                                              |                                                                                   |                                                                                     | 4.2                                                                                 |                                                                                     |                                                                                     | 5.2                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 9.1                                                                               |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.59                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 64.8%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



## Queues

### 7: Dixie Road & UPS Facility Access/12173 West Access 1

Future Total 2028 PM Peak Hour



| Lane Group             | EBL   | WBR   | NBL   | NBT      | SBT    |
|------------------------|-------|-------|-------|----------|--------|
| Lane Configurations    |       |       |       |          |        |
| Traffic Volume (vph)   | 5     | 10    | 35    | 840      | 1445   |
| Future Volume (vph)    | 5     | 10    | 35    | 840      | 1445   |
| Lane Group Flow (vph)  | 5     | 10    | 0     | 880      | 1465   |
| Turn Type              | Perm  | Perm  | Perm  | NA       | NA     |
| Protected Phases       |       |       |       | 2        | 6      |
| Permitted Phases       | 4     | 8     | 2     |          |        |
| Detector Phase         | 4     | 8     | 2     | 2        | 6      |
| Switch Phase           |       |       |       |          |        |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0      | 5.0    |
| Minimum Split (s)      | 39.0  | 39.0  | 31.0  | 31.0     | 31.0   |
| Total Split (s)        | 39.0  | 39.0  | 81.0  | 81.0     | 81.0   |
| Total Split (%)        | 32.5% | 32.5% | 67.5% | 67.5%    | 67.5%  |
| Yellow Time (s)        | 3.0   | 3.0   | 3.0   | 3.0      | 3.0    |
| All-Red Time (s)       | 3.0   | 3.0   | 3.0   | 3.0      | 3.0    |
| Lost Time Adjust (s)   | 0.0   | 0.0   |       | 0.0      | 0.0    |
| Total Lost Time (s)    | 6.0   | 6.0   |       | 6.0      | 6.0    |
| Lead/Lag               |       |       |       |          |        |
| Lead-Lag Optimize?     |       |       |       |          |        |
| Recall Mode            | None  | None  | C-Max | C-Max    | C-Max  |
| v/c Ratio              | 0.06  | 0.04  |       | 0.80     | 0.91   |
| Control Delay          | 55.4  | 0.3   |       | 15.7     | 14.2   |
| Queue Delay            | 0.0   | 0.0   |       | 0.0      | 0.0    |
| Total Delay            | 55.4  | 0.3   |       | 15.7     | 14.2   |
| Queue Length 50th (m)  | 1.2   | 0.0   |       | 106.3    | 172.6  |
| Queue Length 95th (m)  | 5.6   | 0.0   |       | #249.7 m | #456.1 |
| Internal Link Dist (m) |       |       |       | 358.1    | 696.2  |
| Turn Bay Length (m)    |       |       |       |          |        |
| Base Capacity (vph)    | 490   | 571   |       | 1096     | 1609   |
| Starvation Cap Reductn | 0     | 0     |       | 0        | 0      |
| Spillback Cap Reductn  | 0     | 0     |       | 0        | 0      |
| Storage Cap Reductn    | 0     | 0     |       | 0        | 0      |
| Reduced v/c Ratio      | 0.01  | 0.02  |       | 0.80     | 0.91   |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 150

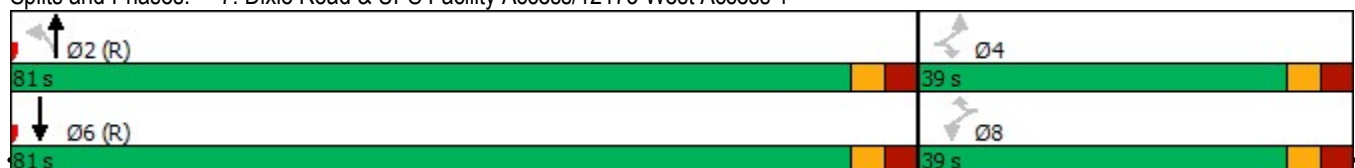
Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Dixie Road & UPS Facility Access/12173 West Access 1



Tribal Lands Dixie

Synchro 11 Report  
FT\_2028.syn

# HCM Signalized Intersection Capacity Analysis

## 7: Dixie Road & UPS Facility Access/12173 West Access 1

Future Total 2028 PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |                                                                                     |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)              | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 840                                                                                 | 5                                                                                   | 0                                                                                   | 1445                                                                                | 20                                                                                  |
| Future Volume (vph)               | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 840                                                                                 | 5                                                                                   | 0                                                                                   | 1445                                                                                | 20                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                     | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                               | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.85                                                                              |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flt Protected                     | 0.95                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (prot)                 | 1785                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1597                                                                              |                                                                                     | 1493                                                                                |                                                                                     |                                                                                     | 1661                                                                                |                                                                                     |
| Flt Permitted                     | 0.95                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 0.76                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (perm)                 | 1785                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1597                                                                              |                                                                                     | 1132                                                                                |                                                                                     |                                                                                     | 1661                                                                                |                                                                                     |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 840                                                                                 | 5                                                                                   | 0                                                                                   | 1445                                                                                | 20                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 880                                                                                 | 0                                                                                   | 0                                                                                   | 1465                                                                                | 0                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 10                                                                                  |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 10                                                                                  |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 2%                                                                                  | 29%                                                                                 | 100%                                                                                | 0%                                                                                  | 13%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     |                                                                                     | NA                                                                                  |                                                                                     |
| Protected Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 1.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.4                                                                               |                                                                                     | 106.6                                                                               |                                                                                     |                                                                                     | 106.6                                                                               |                                                                                     |
| Effective Green, g (s)            | 1.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.4                                                                               |                                                                                     | 106.6                                                                               |                                                                                     |                                                                                     | 106.6                                                                               |                                                                                     |
| Actuated g/C Ratio                | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                     | 0.89                                                                                |                                                                                     |                                                                                     | 0.89                                                                                |                                                                                     |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                     | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                     | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 20                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 18                                                                                |                                                                                     | 1005                                                                                |                                                                                     |                                                                                     | 1475                                                                                |                                                                                     |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | c0.88                                                                               |                                                                                     |
| v/s Ratio Perm                    | c0.00                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                     | 0.78                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/c Ratio                         | 0.25                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                     | 0.88                                                                                |                                                                                     |                                                                                     | 0.99                                                                                |                                                                                     |
| Uniform Delay, d1                 | 58.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 58.6                                                                              |                                                                                     | 3.4                                                                                 |                                                                                     |                                                                                     | 6.4                                                                                 |                                                                                     |
| Progression Factor                | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                     | 3.89                                                                                |                                                                                     |                                                                                     | 3.22                                                                                |                                                                                     |
| Incremental Delay, d2             | 6.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                     | 10.1                                                                                |                                                                                     |                                                                                     | 16.2                                                                                |                                                                                     |
| Delay (s)                         | 65.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 58.8                                                                              |                                                                                     | 23.2                                                                                |                                                                                     |                                                                                     | 36.6                                                                                |                                                                                     |
| Level of Service                  | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | E                                                                                 |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Approach Delay (s)                |                                                                                   | 65.3                                                                              |                                                                                   |                                                                                   | 58.8                                                                              |                                                                                   |                                                                                     | 23.2                                                                                |                                                                                     |                                                                                     | 36.6                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 31.8                                                                              |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.98                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 88.9%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Dixie Road & 12489 Site Access 1

Future Total 2028 PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 0                                                                                 | 835                                                                               | 10                                                                                | 0                                                                                 | 1370                                                                              |
| Future Volume (Veh/h)             | 0                                                                                 | 0                                                                                 | 835                                                                               | 10                                                                                | 0                                                                                 | 1370                                                                              |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 0                                                                                 | 835                                                                               | 10                                                                                | 0                                                                                 | 1370                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 394                                                                               |
| pX, platoon unblocked             | 0.25                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 2205                                                                              | 835                                                                               |                                                                                   |                                                                                   | 845                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 4289                                                                              | 835                                                                               |                                                                                   |                                                                                   | 845                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 100                                                                               |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 1                                                                                 | 371                                                                               |                                                                                   |                                                                                   | 800                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 0                                                                                 | 835                                                                               | 10                                                                                | 1370                                                                              |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 0                                                                                 | 10                                                                                | 0                                                                                 |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 800                                                                               |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.00                                                                              | 0.49                                                                              | 0.01                                                                              | 0.00                                                                              |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 82.1%                                                                             |                                                                                   | ICU Level of Service                                                              | E                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

# Queues

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

Future Total 2028 PM Peak Hour

|                        |  |  |  |  |  |  |   |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 35                                                                                | 0                                                                                 | 90                                                                                | 0                                                                                 | 20                                                                                | 790                                                                               | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| Future Volume (vph)    | 35                                                                                | 0                                                                                 | 90                                                                                | 0                                                                                 | 20                                                                                | 790                                                                               | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| Lane Group Flow (vph)  | 35                                                                                | 55                                                                                | 90                                                                                | 55                                                                                | 20                                                                                | 790                                                                               | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| Turn Type              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   | 4                                                                                 |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                   | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                |
| Total Split (s)        | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 81.0                                                                              | 81.0                                                                              | 81.0                                                                                | 81.0                                                                                | 81.0                                                                                | 81.0                                                                                |
| Total Split (%)        | 32.5%                                                                             | 32.5%                                                                             | 32.5%                                                                             | 32.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 67.5%                                                                               | 67.5%                                                                               | 67.5%                                                                               | 67.5%                                                                               |
| Yellow Time (s)        | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.23                                                                              | 0.23                                                                              | 0.66                                                                              | 0.15                                                                              | 0.21                                                                              | 0.67                                                                              | 0.04                                                                                | 0.06                                                                                | 0.93                                                                                | 0.00                                                                                |
| Control Delay          | 47.6                                                                              | 6.5                                                                               | 70.6                                                                              | 0.9                                                                               | 11.2                                                                              | 11.6                                                                              | 2.6                                                                                 | 4.4                                                                                 | 23.5                                                                                | 0.0                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 47.6                                                                              | 6.5                                                                               | 70.6                                                                              | 0.9                                                                               | 11.2                                                                              | 11.6                                                                              | 2.6                                                                                 | 4.4                                                                                 | 23.5                                                                                | 0.0                                                                                 |
| Queue Length 50th (m)  | 7.9                                                                               | 0.0                                                                               | 21.5                                                                              | 0.0                                                                               | 1.6                                                                               | 108.6                                                                             | 0.3                                                                                 | 0.6                                                                                 | 176.9                                                                               | 0.0                                                                                 |
| Queue Length 95th (m)  | 17.1                                                                              | 6.6                                                                               | 37.5                                                                              | 0.0                                                                               | m2.5                                                                              | 111.7                                                                             | m0.7                                                                                | m2.4                                                                                | #409.3                                                                              | m0.0                                                                                |
| Internal Link Dist (m) |                                                                                   | 161.0                                                                             |                                                                                   | 124.2                                                                             |                                                                                   | 369.7                                                                             |                                                                                     |                                                                                     | 813.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 20.0                                                                              |                                                                                   | 20.0                                                                              |                                                                                   | 60.0                                                                              |                                                                                   | 60.0                                                                                | 60.0                                                                                |                                                                                     | 60.0                                                                                |
| Base Capacity (vph)    | 326                                                                               | 410                                                                               | 288                                                                               | 529                                                                               | 94                                                                                | 1176                                                                              | 685                                                                                 | 264                                                                                 | 1324                                                                                | 1228                                                                                |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.11                                                                              | 0.13                                                                              | 0.31                                                                              | 0.10                                                                              | 0.21                                                                              | 0.67                                                                              | 0.04                                                                                | 0.06                                                                                | 0.93                                                                                | 0.00                                                                                |

## Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2



Tribal Lands Dixie

Synchro 11 Report  
FT\_2028.syn

# HCM Signalized Intersection Capacity Analysis

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

Future Total 2028 PM Peak Hour

|                                   |  |                                                                                   |       |                                                                                   |                                                                                   |                           |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                                | EBT                                                                               | EBR   | WBL                                                                               | WBT                                                                               | WBR                       | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |   |  |       |  |  |                           |  |  |  |  |  |  |
| Traffic Volume (vph)              | 35                                                                                 | 0                                                                                 | 55    | 90                                                                                | 0                                                                                 | 55                        | 20                                                                                 | 790                                                                                 | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| Future Volume (vph)               | 35                                                                                 | 0                                                                                 | 55    | 90                                                                                | 0                                                                                 | 55                        | 20                                                                                 | 790                                                                                 | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| Ideal Flow (vphpl)                | 1900                                                                               | 1900                                                                              | 1900  | 1900                                                                              | 1900                                                                              | 1900                      | 1900                                                                               | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                                | 3.7                                                                               | 3.5   | 3.0                                                                               | 3.7                                                                               | 3.5                       | 3.5                                                                                | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                                | 6.0                                                                               |       | 6.0                                                                               | 6.0                                                                               |                           | 6.5                                                                                | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                               | 1.00                                                                              |       | 1.00                                                                              | 1.00                                                                              |                           | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                               | 0.85                                                                              |       | 1.00                                                                              | 0.85                                                                              |                           | 1.00                                                                               | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                               | 1.00                                                                              |       | 0.95                                                                              | 1.00                                                                              |                           | 0.95                                                                               | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1566                                                                               | 1286                                                                              |       | 1381                                                                              | 1384                                                                              |                           | 1190                                                                               | 1537                                                                                | 887                                                                                 | 1075                                                                                | 1731                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.72                                                                               | 1.00                                                                              |       | 0.72                                                                              | 1.00                                                                              |                           | 0.10                                                                               | 1.00                                                                                | 1.00                                                                                | 0.30                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1189                                                                               | 1286                                                                              |       | 1048                                                                              | 1384                                                                              |                           | 124                                                                                | 1537                                                                                | 887                                                                                 | 345                                                                                 | 1731                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                               | 1.00                                                                              | 1.00  | 1.00                                                                              | 1.00                                                                              | 1.00                      | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 35                                                                                 | 0                                                                                 | 55    | 90                                                                                | 0                                                                                 | 55                        | 20                                                                                 | 790                                                                                 | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| RTOR Reduction (vph)              | 0                                                                                  | 48                                                                                | 0     | 0                                                                                 | 48                                                                                | 0                         | 0                                                                                  | 0                                                                                   | 6                                                                                   | 0                                                                                   | 0                                                                                   | 1                                                                                   |
| Lane Group Flow (vph)             | 35                                                                                 | 7                                                                                 | 0     | 90                                                                                | 7                                                                                 | 0                         | 20                                                                                 | 790                                                                                 | 19                                                                                  | 15                                                                                  | 1230                                                                                | 4                                                                                   |
| Heavy Vehicles (%)                | 14%                                                                                | 0%                                                                                | 27%   | 22%                                                                               | 0%                                                                                | 18%                       | 50%                                                                                | 25%                                                                                 | 80%                                                                                 | 66%                                                                                 | 11%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                               | NA                                                                                |       | Perm                                                                              | NA                                                                                |                           | Perm                                                                               | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                    | 4                                                                                 |       |                                                                                   | 8                                                                                 |                           |                                                                                    | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                  |                                                                                   |       | 8                                                                                 |                                                                                   |                           | 2                                                                                  |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 15.7                                                                               | 15.7                                                                              |       | 15.7                                                                              | 15.7                                                                              |                           | 91.8                                                                               | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                |
| Effective Green, g (s)            | 15.7                                                                               | 15.7                                                                              |       | 15.7                                                                              | 15.7                                                                              |                           | 91.8                                                                               | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                |
| Actuated g/C Ratio                | 0.13                                                                               | 0.13                                                                              |       | 0.13                                                                              | 0.13                                                                              |                           | 0.76                                                                               | 0.76                                                                                | 0.76                                                                                | 0.76                                                                                | 0.76                                                                                | 0.76                                                                                |
| Clearance Time (s)                | 6.0                                                                                | 6.0                                                                               |       | 6.0                                                                               | 6.0                                                                               |                           | 6.5                                                                                | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                                | 3.0                                                                               |       | 3.0                                                                               | 3.0                                                                               |                           | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 155                                                                                | 168                                                                               |       | 137                                                                               | 181                                                                               |                           | 94                                                                                 | 1175                                                                                | 678                                                                                 | 263                                                                                 | 1324                                                                                | 1221                                                                                |
| v/s Ratio Prot                    |                                                                                    | 0.01                                                                              |       |                                                                                   | 0.01                                                                              |                           |                                                                                    | 0.51                                                                                |                                                                                     |                                                                                     | c0.71                                                                               |                                                                                     |
| v/s Ratio Perm                    | 0.03                                                                               |                                                                                   |       | c0.09                                                                             |                                                                                   |                           | 0.16                                                                               |                                                                                     | 0.02                                                                                | 0.04                                                                                |                                                                                     | 0.00                                                                                |
| v/c Ratio                         | 0.23                                                                               | 0.04                                                                              |       | 0.66                                                                              | 0.04                                                                              |                           | 0.21                                                                               | 0.67                                                                                | 0.03                                                                                | 0.06                                                                                | 0.93                                                                                | 0.00                                                                                |
| Uniform Delay, d1                 | 46.7                                                                               | 45.6                                                                              |       | 49.6                                                                              | 45.6                                                                              |                           | 4.0                                                                                | 6.8                                                                                 | 3.4                                                                                 | 3.5                                                                                 | 11.5                                                                                | 3.3                                                                                 |
| Progression Factor                | 1.00                                                                               | 1.00                                                                              |       | 1.00                                                                              | 1.00                                                                              |                           | 1.23                                                                               | 1.16                                                                                | 1.49                                                                                | 0.80                                                                                | 0.71                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 0.7                                                                                | 0.1                                                                               |       | 10.8                                                                              | 0.1                                                                               |                           | 3.0                                                                                | 1.8                                                                                 | 0.0                                                                                 | 0.4                                                                                 | 12.6                                                                                | 0.0                                                                                 |
| Delay (s)                         | 47.5                                                                               | 45.7                                                                              |       | 60.4                                                                              | 45.7                                                                              |                           | 7.9                                                                                | 9.7                                                                                 | 5.1                                                                                 | 3.2                                                                                 | 20.7                                                                                | 3.3                                                                                 |
| Level of Service                  | D                                                                                  | D                                                                                 |       | E                                                                                 | D                                                                                 |                           | A                                                                                  | A                                                                                   | A                                                                                   | A                                                                                   | C                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                    | 46.4                                                                              |       |                                                                                   | 54.8                                                                              |                           |                                                                                    | 9.5                                                                                 |                                                                                     |                                                                                     | 20.4                                                                                |                                                                                     |
| Approach LOS                      |                                                                                    | D                                                                                 |       |                                                                                   | D                                                                                 |                           |                                                                                    | A                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                    |                                                                                   |       |                                                                                   |                                                                                   |                           |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                    |                                                                                   | 19.7  |                                                                                   |                                                                                   | HCM 2000 Level of Service |                                                                                    |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                    |                                                                                   | 0.89  |                                                                                   |                                                                                   |                           |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                    |                                                                                   | 120.0 |                                                                                   |                                                                                   | Sum of lost time (s)      |                                                                                    |                                                                                     | 12.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                    |                                                                                   | 86.8% |                                                                                   |                                                                                   | ICU Level of Service      |                                                                                    |                                                                                     | E                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                    |                                                                                   | 15    |                                                                                   |                                                                                   |                           |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                    |                                                                                   |       |                                                                                   |                                                                                   |                           |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 11: Dixie Road & 12861 Site Access 1

Future Total 2028 PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |                                                                                   |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 45                                                                                | 830                                                                               | 50                                                                                | 0                                                                                 | 1250                                                                              |
| Future Volume (Veh/h)             | 0                                                                                 | 45                                                                                | 830                                                                               | 50                                                                                | 0                                                                                 | 1250                                                                              |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 45                                                                                | 830                                                                               | 50                                                                                | 0                                                                                 | 1250                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 240                                                                               |
| pX, platoon unblocked             | 0.80                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 2105                                                                              | 855                                                                               |                                                                                   |                                                                                   | 880                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 2260                                                                              | 855                                                                               |                                                                                   |                                                                                   | 880                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.3                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.4                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 87                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 36                                                                                | 345                                                                               |                                                                                   |                                                                                   | 777                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 45                                                                                | 880                                                                               | 1250                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 45                                                                                | 50                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 345                                                                               | 1700                                                                              | 1700                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.13                                                                              | 0.52                                                                              | 0.74                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 3.6                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 17.0                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 17.0                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.4                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 69.1%                                                                             | ICU Level of Service                                                              |                                                                                   | C                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

# Queues

## 12: Dixie Road & Old School Road

Future Total 2028 PM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 130                                                                               | 150                                                                               | 105                                                                               | 200                                                                               | 350                                                                               | 90                                                                                | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| Future Volume (vph)    | 130                                                                               | 150                                                                               | 105                                                                               | 200                                                                               | 350                                                                               | 90                                                                                | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| Lane Group Flow (vph)  | 130                                                                               | 150                                                                               | 105                                                                               | 200                                                                               | 365                                                                               | 90                                                                                | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| Turn Type              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       | 7                                                                                 | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 7                                                                                 | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 9.5                                                                               | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                |
| Total Split (s)        | 13.7                                                                              | 58.7                                                                              | 58.7                                                                              | 45.0                                                                              | 45.0                                                                              | 61.3                                                                              | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                |
| Total Split (%)        | 11.4%                                                                             | 48.9%                                                                             | 48.9%                                                                             | 37.5%                                                                             | 37.5%                                                                             | 51.1%                                                                             | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               |
| Yellow Time (s)        | 3.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 1.0                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               | Lead                                                                              |                                                                                   |                                                                                   | Lag                                                                               | Lag                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.51                                                                              | 0.23                                                                              | 0.17                                                                              | 0.80                                                                              | 0.79                                                                              | 0.30                                                                              | 0.58                                                                                | 0.14                                                                                | 0.10                                                                                | 0.35                                                                                | 0.07                                                                                |
| Control Delay          | 31.0                                                                              | 26.6                                                                              | 4.6                                                                               | 52.3                                                                              | 41.9                                                                              | 23.5                                                                              | 23.5                                                                                | 9.6                                                                                 | 18.3                                                                                | 18.7                                                                                | 4.2                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 31.0                                                                              | 26.6                                                                              | 4.6                                                                               | 52.3                                                                              | 41.9                                                                              | 23.5                                                                              | 23.5                                                                                | 9.6                                                                                 | 18.3                                                                                | 18.7                                                                                | 4.2                                                                                 |
| Queue Length 50th (m)  | 21.6                                                                              | 26.0                                                                              | 0.0                                                                               | 52.2                                                                              | 94.9                                                                              | 11.1                                                                              | 78.8                                                                                | 3.3                                                                                 | 2.3                                                                                 | 44.0                                                                                | 0.0                                                                                 |
| Queue Length 95th (m)  | 31.4                                                                              | 36.7                                                                              | 10.4                                                                              | 77.0                                                                              | 124.7                                                                             | m26.4                                                                             | 140.5                                                                               | m20.1                                                                               | 8.3                                                                                 | 77.4                                                                                | 7.7                                                                                 |
| Internal Link Dist (m) |                                                                                   | 371.4                                                                             |                                                                                   |                                                                                   | 41.8                                                                              |                                                                                   | 216.1                                                                               |                                                                                     |                                                                                     | 261.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 75.0                                                                              |                                                                                   | 75.0                                                                              | 65.0                                                                              |                                                                                   | 75.0                                                                              |                                                                                     | 50.0                                                                                | 75.0                                                                                |                                                                                     | 75.0                                                                                |
| Base Capacity (vph)    | 256                                                                               | 811                                                                               | 747                                                                               | 332                                                                               | 612                                                                               | 301                                                                               | 992                                                                                 | 824                                                                                 | 205                                                                                 | 921                                                                                 | 873                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.51                                                                              | 0.18                                                                              | 0.14                                                                              | 0.60                                                                              | 0.60                                                                              | 0.30                                                                              | 0.58                                                                                | 0.14                                                                                | 0.10                                                                                | 0.35                                                                                | 0.07                                                                                |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

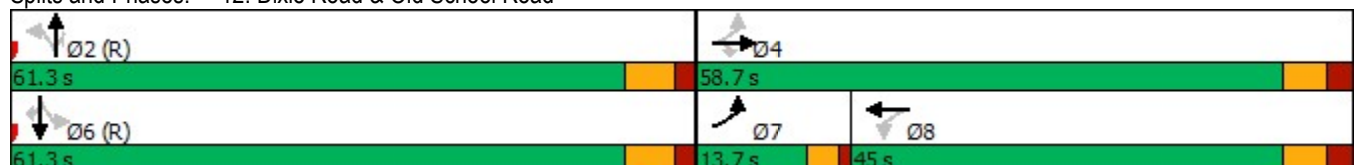
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Dixie Road & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 12: Dixie Road & Old School Road

Future Total 2028 PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 130                                                                               | 150                                                                               | 105                                                                               | 200                                                                               | 350                                                                               | 15                                                                                | 90                                                                                  | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| Future Volume (vph)               | 130                                                                               | 150                                                                               | 105                                                                               | 200                                                                               | 350                                                                               | 15                                                                                | 90                                                                                  | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              | 1865                                                                              | 1581                                                                              | 1487                                                                              | 1904                                                                              |                                                                                   | 1038                                                                                | 1847                                                                                | 1465                                                                                | 1167                                                                                | 1715                                                                                | 1566                                                                                |
| Flt Permitted                     | 0.20                                                                              | 1.00                                                                              | 1.00                                                                              | 0.66                                                                              | 1.00                                                                              |                                                                                   | 0.51                                                                                | 1.00                                                                                | 1.00                                                                                | 0.31                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 382                                                                               | 1865                                                                              | 1581                                                                              | 1036                                                                              | 1904                                                                              |                                                                                   | 561                                                                                 | 1847                                                                                | 1465                                                                                | 383                                                                                 | 1715                                                                                | 1566                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 130                                                                               | 150                                                                               | 105                                                                               | 200                                                                               | 350                                                                               | 15                                                                                | 90                                                                                  | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 68                                                                                | 0                                                                                 | 2                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 37                                                                                  | 0                                                                                   | 0                                                                                   | 30                                                                                  |
| Lane Group Flow (vph)             | 130                                                                               | 150                                                                               | 37                                                                                | 200                                                                               | 363                                                                               | 0                                                                                 | 90                                                                                  | 575                                                                                 | 78                                                                                  | 20                                                                                  | 325                                                                                 | 35                                                                                  |
| Heavy Vehicles (%)                | 0%                                                                                | 3%                                                                                | 1%                                                                                | 20%                                                                               | 0%                                                                                | 7%                                                                                | 72%                                                                                 | 4%                                                                                  | 9%                                                                                  | 53%                                                                                 | 12%                                                                                 | 2%                                                                                  |
| Turn Type                         | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  | 7                                                                                 | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 42.5                                                                              | 42.5                                                                              | 42.5                                                                              | 29.0                                                                              | 29.0                                                                              |                                                                                   | 64.5                                                                                | 64.5                                                                                | 64.5                                                                                | 64.5                                                                                | 64.5                                                                                | 64.5                                                                                |
| Effective Green, g (s)            | 42.5                                                                              | 42.5                                                                              | 42.5                                                                              | 29.0                                                                              | 29.0                                                                              |                                                                                   | 64.5                                                                                | 64.5                                                                                | 64.5                                                                                | 64.5                                                                                | 64.5                                                                                | 64.5                                                                                |
| Actuated g/C Ratio                | 0.35                                                                              | 0.35                                                                              | 0.35                                                                              | 0.24                                                                              | 0.24                                                                              |                                                                                   | 0.54                                                                                | 0.54                                                                                | 0.54                                                                                | 0.54                                                                                | 0.54                                                                                | 0.54                                                                                |
| Clearance Time (s)                | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 246                                                                               | 660                                                                               | 559                                                                               | 250                                                                               | 460                                                                               |                                                                                   | 301                                                                                 | 992                                                                                 | 787                                                                                 | 205                                                                                 | 921                                                                                 | 841                                                                                 |
| v/s Ratio Prot                    | c0.04                                                                             | 0.08                                                                              |                                                                                   |                                                                                   | 0.19                                                                              |                                                                                   |                                                                                     | c0.31                                                                               |                                                                                     |                                                                                     | 0.19                                                                                |                                                                                     |
| v/s Ratio Perm                    | 0.14                                                                              |                                                                                   | 0.02                                                                              | c0.19                                                                             |                                                                                   |                                                                                   | 0.16                                                                                |                                                                                     | 0.05                                                                                | 0.05                                                                                |                                                                                     | 0.02                                                                                |
| v/c Ratio                         | 0.53                                                                              | 0.23                                                                              | 0.07                                                                              | 0.80                                                                              | 0.79                                                                              |                                                                                   | 0.30                                                                                | 0.58                                                                                | 0.10                                                                                | 0.10                                                                                | 0.35                                                                                | 0.04                                                                                |
| Uniform Delay, d1                 | 29.0                                                                              | 27.2                                                                              | 25.6                                                                              | 42.8                                                                              | 42.6                                                                              |                                                                                   | 15.3                                                                                | 18.6                                                                                | 13.6                                                                                | 13.5                                                                                | 15.8                                                                                | 13.1                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.71                                                                              | 0.70                                                                              |                                                                                   | 1.14                                                                                | 1.04                                                                                | 1.47                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 2.0                                                                               | 0.2                                                                               | 0.1                                                                               | 16.3                                                                              | 8.8                                                                               |                                                                                   | 2.1                                                                                 | 2.0                                                                                 | 0.2                                                                                 | 0.9                                                                                 | 1.1                                                                                 | 0.1                                                                                 |
| Delay (s)                         | 31.1                                                                              | 27.4                                                                              | 25.7                                                                              | 46.7                                                                              | 38.8                                                                              |                                                                                   | 19.6                                                                                | 21.4                                                                                | 20.2                                                                                | 14.5                                                                                | 16.9                                                                                | 13.2                                                                                |
| Level of Service                  | C                                                                                 | C                                                                                 | C                                                                                 | D                                                                                 | D                                                                                 |                                                                                   | B                                                                                   | C                                                                                   | C                                                                                   | B                                                                                   | B                                                                                   | B                                                                                   |
| Approach Delay (s)                |                                                                                   | 28.2                                                                              |                                                                                   |                                                                                   | 41.6                                                                              |                                                                                   |                                                                                     | 21.0                                                                                |                                                                                     |                                                                                     | 16.2                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 26.8                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.64                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 17.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 80.5%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# HCM Unsignalized Intersection Capacity Analysis

## 13: 12861 Site Access 2 & Old School Road

Future Total 2028 PM Peak Hour

|                                   | →    | ↘    | ↙     | ←    | ↖                    | ↗    |
|-----------------------------------|------|------|-------|------|----------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT  | NBL                  | NBR  |
| Lane Configurations               | ↑↑   |      |       | ↑↑   |                      | ↗    |
| Traffic Volume (veh/h)            | 265  | 15   | 0     | 560  | 0                    | 10   |
| Future Volume (Veh/h)             | 265  | 15   | 0     | 560  | 0                    | 10   |
| Sign Control                      | Free |      |       | Free | Stop                 |      |
| Grade                             | 0%   |      |       | 0%   | 0%                   |      |
| Peak Hour Factor                  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00                 | 1.00 |
| Hourly flow rate (vph)            | 265  | 15   | 0     | 560  | 0                    | 10   |
| Pedestrians                       |      |      |       |      |                      |      |
| Lane Width (m)                    |      |      |       |      |                      |      |
| Walking Speed (m/s)               |      |      |       |      |                      |      |
| Percent Blockage                  |      |      |       |      |                      |      |
| Right turn flare (veh)            |      |      |       |      |                      |      |
| Median type                       | None |      |       | None |                      |      |
| Median storage veh                |      |      |       |      |                      |      |
| Upstream signal (m)               | 66   |      |       |      |                      |      |
| pX, platoon unblocked             |      |      |       |      |                      |      |
| vC, conflicting volume            |      |      | 280   |      | 552                  | 140  |
| vC1, stage 1 conf vol             |      |      |       |      |                      |      |
| vC2, stage 2 conf vol             |      |      |       |      |                      |      |
| vCu, unblocked vol                |      |      | 280   |      | 552                  | 140  |
| tC, single (s)                    |      |      | 4.1   |      | 6.8                  | 6.9  |
| tC, 2 stage (s)                   |      |      |       |      |                      |      |
| tF (s)                            |      |      | 2.2   |      | 3.5                  | 3.3  |
| p0 queue free %                   |      |      | 100   |      | 100                  | 99   |
| cM capacity (veh/h)               |      |      | 1294  |      | 468                  | 889  |
| Direction, Lane #                 | EB 1 | EB 2 | WB 1  | WB 2 | NB 1                 |      |
| Volume Total                      | 177  | 103  | 280   | 280  | 10                   |      |
| Volume Left                       | 0    | 0    | 0     | 0    | 0                    |      |
| Volume Right                      | 0    | 15   | 0     | 0    | 10                   |      |
| cSH                               | 1700 | 1700 | 1700  | 1700 | 889                  |      |
| Volume to Capacity                | 0.10 | 0.06 | 0.16  | 0.16 | 0.01                 |      |
| Queue Length 95th (m)             | 0.0  | 0.0  | 0.0   | 0.0  | 0.3                  |      |
| Control Delay (s)                 | 0.0  | 0.0  | 0.0   | 0.0  | 9.1                  |      |
| Lane LOS                          |      |      |       |      | A                    |      |
| Approach Delay (s)                | 0.0  |      | 0.0   |      | 9.1                  |      |
| Approach LOS                      |      |      |       |      | A                    |      |
| Intersection Summary              |      |      |       |      |                      |      |
| Average Delay                     |      |      | 0.1   |      |                      |      |
| Intersection Capacity Utilization |      |      | 18.8% |      | ICU Level of Service | A    |
| Analysis Period (min)             |      |      | 15    |      |                      |      |

## Queues

### 14: 12861 Site Access 3 & Old School Road

Future Total 2028 PM Peak Hour

|                        | →     | ↖     | ←     | ↙     |
|------------------------|-------|-------|-------|-------|
| Lane Group             | EBT   | WBL   | WBT   | NBL   |
| Lane Configurations    | ↑↑    | ↑     | ↑↑    | ↘     |
| Traffic Volume (vph)   | 275   | 10    | 430   | 130   |
| Future Volume (vph)    | 275   | 10    | 430   | 130   |
| Lane Group Flow (vph)  | 275   | 10    | 430   | 150   |
| Turn Type              | NA    | Perm  | NA    | Prot  |
| Protected Phases       | 4     |       | 8     | 2     |
| Permitted Phases       |       | 8     |       |       |
| Detector Phase         | 4     | 8     | 8     | 2     |
| Switch Phase           |       |       |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)      | 28.5  | 31.5  | 31.5  | 31.5  |
| Total Split (s)        | 60.0  | 60.0  | 60.0  | 60.0  |
| Total Split (%)        | 50.0% | 50.0% | 50.0% | 50.0% |
| Yellow Time (s)        | 4.5   | 4.5   | 4.5   | 4.0   |
| All-Red Time (s)       | 2.0   | 2.0   | 2.0   | 2.5   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5   | 6.5   |
| Lead/Lag               |       |       |       |       |
| Lead-Lag Optimize?     |       |       |       |       |
| Recall Mode            | None  | None  | None  | C-Min |
| v/c Ratio              | 0.46  | 0.09  | 0.71  | 0.15  |
| Control Delay          | 41.0  | 42.1  | 53.9  | 5.7   |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay            | 41.0  | 42.1  | 53.9  | 5.7   |
| Queue Length 50th (m)  | 33.3  | 2.1   | 53.6  | 9.5   |
| Queue Length 95th (m)  | 40.2  | 7.1   | 68.0  | 19.3  |
| Internal Link Dist (m) | 433.3 |       | 157.0 | 183.7 |
| Turn Bay Length (m)    |       | 95.0  |       |       |
| Base Capacity (vph)    | 1611  | 288   | 1611  | 1019  |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     |
| Reduced v/c Ratio      | 0.17  | 0.03  | 0.27  | 0.15  |

#### Intersection Summary

Cycle Length: 120

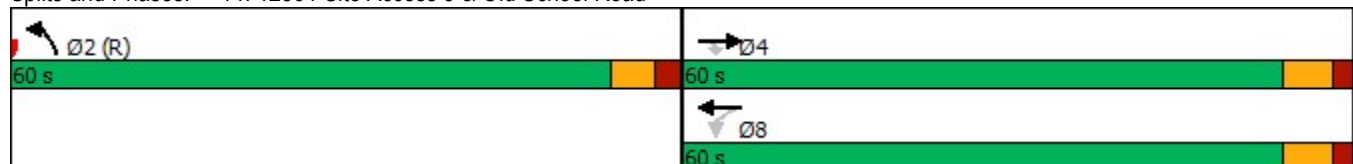
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 14: 12861 Site Access 3 & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 14: 12861 Site Access 3 & Old School Road

Future Total 2028 PM Peak Hour

|                                   | →    | ↘    | ↙     | ←     | ↖                         | ↗    |
|-----------------------------------|------|------|-------|-------|---------------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT   | NBL                       | NBR  |
| Lane Configurations               | ↑↑   | ↑    | ↓     | ↑↑    | ↓                         |      |
| Traffic Volume (vph)              | 275  | 0    | 10    | 430   | 130                       | 20   |
| Future Volume (vph)               | 275  | 0    | 10    | 430   | 130                       | 20   |
| Ideal Flow (vphpl)                | 1900 | 1900 | 1900  | 1900  | 1900                      | 1900 |
| Lane Width                        | 3.7  | 3.5  | 3.5   | 3.7   | 3.5                       | 3.5  |
| Total Lost time (s)               | 6.5  |      | 6.5   | 6.5   | 6.5                       |      |
| Lane Util. Factor                 | 0.95 |      | 1.00  | 0.95  | 1.00                      |      |
| Frt                               | 1.00 |      | 1.00  | 1.00  | 0.98                      |      |
| Flt Protected                     | 1.00 |      | 0.95  | 1.00  | 0.96                      |      |
| Satd. Flow (prot)                 | 3614 |      | 1190  | 3614  | 1405                      |      |
| Flt Permitted                     | 1.00 |      | 0.52  | 1.00  | 0.96                      |      |
| Satd. Flow (perm)                 | 3614 |      | 648   | 3614  | 1405                      |      |
| Peak-hour factor, PHF             | 1.00 | 1.00 | 1.00  | 1.00  | 1.00                      | 1.00 |
| Adj. Flow (vph)                   | 275  | 0    | 10    | 430   | 130                       | 20   |
| RTOR Reduction (vph)              | 0    | 0    | 0     | 0     | 2                         | 0    |
| Lane Group Flow (vph)             | 275  | 0    | 10    | 430   | 148                       | 0    |
| Heavy Vehicles (%)                | 1%   | 0%   | 50%   | 1%    | 26%                       | 25%  |
| Turn Type                         | NA   | Perm | Perm  | NA    | Prot                      |      |
| Protected Phases                  | 4    |      |       | 8     | 2                         |      |
| Permitted Phases                  |      | 4    | 8     |       |                           |      |
| Actuated Green, G (s)             | 20.0 |      | 20.0  | 20.0  | 87.0                      |      |
| Effective Green, g (s)            | 20.0 |      | 20.0  | 20.0  | 87.0                      |      |
| Actuated g/C Ratio                | 0.17 |      | 0.17  | 0.17  | 0.72                      |      |
| Clearance Time (s)                | 6.5  |      | 6.5   | 6.5   | 6.5                       |      |
| Vehicle Extension (s)             | 3.0  |      | 3.0   | 3.0   | 3.0                       |      |
| Lane Grp Cap (vph)                | 602  |      | 108   | 602   | 1018                      |      |
| v/s Ratio Prot                    | 0.08 |      |       | c0.12 | c0.11                     |      |
| v/s Ratio Perm                    |      |      | 0.02  |       |                           |      |
| v/c Ratio                         | 0.46 |      | 0.09  | 0.71  | 0.15                      |      |
| Uniform Delay, d1                 | 45.1 |      | 42.3  | 47.3  | 5.1                       |      |
| Progression Factor                | 0.87 |      | 1.00  | 1.00  | 1.00                      |      |
| Incremental Delay, d2             | 0.5  |      | 0.4   | 4.0   | 0.3                       |      |
| Delay (s)                         | 39.6 |      | 42.7  | 51.3  | 5.4                       |      |
| Level of Service                  | D    |      | D     | D     | A                         |      |
| Approach Delay (s)                | 39.6 |      |       | 51.1  | 5.4                       |      |
| Approach LOS                      | D    |      |       | D     | A                         |      |
| <b>Intersection Summary</b>       |      |      |       |       |                           |      |
| HCM 2000 Control Delay            |      |      | 39.5  |       | HCM 2000 Level of Service | D    |
| HCM 2000 Volume to Capacity ratio |      |      | 0.25  |       |                           |      |
| Actuated Cycle Length (s)         |      |      | 120.0 |       | Sum of lost time (s)      | 13.0 |
| Intersection Capacity Utilization |      |      | 31.1% |       | ICU Level of Service      | A    |
| Analysis Period (min)             |      |      | 15    |       |                           |      |
| c Critical Lane Group             |      |      |       |       |                           |      |

# HCM Unsignalized Intersection Capacity Analysis

## 15: Bramalea Road & Old School Road

Future Total 2028 PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 45                                                                                | 225                                                                               | 25                                                                                | 15                                                                                | 355                                                                               | 10                                                                                | 60                                                                                 | 200                                                                                 | 35                                                                                  | 10                                                                                  | 55                                                                                  | 25                                                                                  |
| Future Volume (vph)               | 45                                                                                | 225                                                                               | 25                                                                                | 15                                                                                | 355                                                                               | 10                                                                                | 60                                                                                 | 200                                                                                 | 35                                                                                  | 10                                                                                  | 55                                                                                  | 25                                                                                  |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Hourly flow rate (vph)            | 45                                                                                | 225                                                                               | 25                                                                                | 15                                                                                | 355                                                                               | 10                                                                                | 60                                                                                 | 200                                                                                 | 35                                                                                  | 10                                                                                  | 55                                                                                  | 25                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 295                                                                               | 380                                                                               | 295                                                                               | 90                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 45                                                                                | 15                                                                                | 60                                                                                | 10                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 25                                                                                | 10                                                                                | 35                                                                                | 25                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | 0.10                                                                              | 0.03                                                                              | -0.03                                                                             | 0.05                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 6.0                                                                               | 5.7                                                                               | 6.0                                                                               | 6.7                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.49                                                                              | 0.61                                                                              | 0.50                                                                              | 0.17                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 563                                                                               | 599                                                                               | 547                                                                               | 443                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 14.5                                                                              | 17.1                                                                              | 14.8                                                                              | 11.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 14.5                                                                              | 17.1                                                                              | 14.8                                                                              | 11.0                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | B                                                                                 | C                                                                                 | B                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   |                                                                                   | 15.2                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 61.8%                                                                             | ICU Level of Service                                                              | B                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Queues

## 1: Dixie Road & Mayfield Road

Future Background 2033 (12489) AM Peak Hour

|                        |                                                                                    |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |                                                                                      |  |                                                                                      |                                                                                      |  |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                                                                                                                 | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                 | NBT                                                                                                                                                                     | NBR                                                                                 | SBL                                                                                                                                                                     | SBT                                                                                                                                                                     | SBR                                                                                 |
| Lane Configurations    |   |    |  |  |    |  |  |   |  |   |   |  |
| Traffic Volume (vph)   | 845                                                                                                                                                                 | 2005                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 930                                                                                                                                                                                                                                                   | 205                                                                               | 130                                                                                 | 325                                                                                                                                                                     | 60                                                                                  | 110                                                                                                                                                                     | 300                                                                                                                                                                     | 425                                                                                 |
| Future Volume (vph)    | 845                                                                                                                                                                 | 2005                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 930                                                                                                                                                                                                                                                   | 205                                                                               | 130                                                                                 | 325                                                                                                                                                                     | 60                                                                                  | 110                                                                                                                                                                     | 300                                                                                                                                                                     | 425                                                                                 |
| Lane Group Flow (vph)  | 845                                                                                                                                                                 | 2005                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 930                                                                                                                                                                                                                                                   | 205                                                                               | 130                                                                                 | 325                                                                                                                                                                     | 60                                                                                  | 110                                                                                                                                                                     | 300                                                                                                                                                                     | 425                                                                                 |
| Turn Type              | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | custom                                                                            | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | custom                                                                            | pm+pt                                                                               | NA                                                                                                                                                                      | custom                                                                              | pm+pt                                                                                                                                                                   | NA                                                                                                                                                                      | custom                                                                              |
| Protected Phases       | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                   | 7                                                                                   | 4                                                                                                                                                                       |                                                                                     | 3                                                                                                                                                                       | 8                                                                                                                                                                       |                                                                                     |
| Permitted Phases       |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 2 4                                                                               | 6                                                                                 |                                                                                                                                                                                                                                                       | 6 8                                                                               | 4                                                                                   |                                                                                                                                                                         | 4 6                                                                                 | 8                                                                                                                                                                       |                                                                                                                                                                         | 8 2                                                                                 |
| Detector Phase         | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     | 2 4                                                                               | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 6 8                                                                               | 7                                                                                   | 4                                                                                                                                                                       | 4 6                                                                                 | 3                                                                                                                                                                       | 8                                                                                                                                                                       | 8 2                                                                                 |
| Switch Phase           |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                     |                                                                                                                                                                         |                                                                                     |                                                                                                                                                                         |                                                                                                                                                                         |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                                                                                                                 | 8.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                               | 8.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                                 | 8.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                                                                                                     | 8.0                                                                                                                                                                     |                                                                                     |
| Minimum Split (s)      | 9.5                                                                                                                                                                 | 44.9                                                                                                                                                                                                                                                  |                                                                                   | 9.5                                                                               | 44.9                                                                                                                                                                                                                                                  |                                                                                   | 9.5                                                                                 | 47.0                                                                                                                                                                    |                                                                                     | 9.5                                                                                                                                                                     | 47.9                                                                                                                                                                    |                                                                                     |
| Total Split (s)        | 31.0                                                                                                                                                                | 66.4                                                                                                                                                                                                                                                  |                                                                                   | 9.6                                                                               | 45.0                                                                                                                                                                                                                                                  |                                                                                   | 11.1                                                                                | 47.9                                                                                                                                                                    |                                                                                     | 11.1                                                                                                                                                                    | 47.9                                                                                                                                                                    |                                                                                     |
| Total Split (%)        | 23.0%                                                                                                                                                               | 49.2%                                                                                                                                                                                                                                                 |                                                                                   | 7.1%                                                                              | 33.3%                                                                                                                                                                                                                                                 |                                                                                   | 8.2%                                                                                | 35.5%                                                                                                                                                                   |                                                                                     | 8.2%                                                                                                                                                                    | 35.5%                                                                                                                                                                   |                                                                                     |
| Yellow Time (s)        | 3.5                                                                                                                                                                 | 4.6                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                               | 4.6                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                                 | 4.0                                                                                                                                                                     |                                                                                     | 3.5                                                                                                                                                                     | 4.6                                                                                                                                                                     |                                                                                     |
| All-Red Time (s)       | 1.0                                                                                                                                                                 | 2.3                                                                                                                                                                                                                                                   |                                                                                   | 1.0                                                                               | 2.3                                                                                                                                                                                                                                                   |                                                                                   | 1.0                                                                                 | 2.0                                                                                                                                                                     |                                                                                     | 1.0                                                                                                                                                                     | 2.3                                                                                                                                                                     |                                                                                     |
| Lost Time Adjust (s)   | -1.0                                                                                                                                                                | 0.0                                                                                                                                                                                                                                                   |                                                                                   | -1.0                                                                              | 0.0                                                                                                                                                                                                                                                   |                                                                                   | -1.0                                                                                | 0.0                                                                                                                                                                     |                                                                                     | -1.0                                                                                                                                                                    | 0.0                                                                                                                                                                     |                                                                                     |
| Total Lost Time (s)    | 3.5                                                                                                                                                                 | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                               | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                                 | 6.0                                                                                                                                                                     |                                                                                     | 3.5                                                                                                                                                                     | 6.9                                                                                                                                                                     |                                                                                     |
| Lead/Lag               | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                              | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                                | Lag                                                                                                                                                                     |                                                                                     | Lead                                                                                                                                                                    | Lag                                                                                                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                               | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                                 | Yes                                                                                                                                                                     |                                                                                     | Yes                                                                                                                                                                     | Yes                                                                                                                                                                     |                                                                                     |
| Recall Mode            | None                                                                                                                                                                | C-Min                                                                                                                                                                                                                                                 |                                                                                   | None                                                                              | C-Min                                                                                                                                                                                                                                                 |                                                                                   | None                                                                                | None                                                                                                                                                                    |                                                                                     | None                                                                                                                                                                    | None                                                                                                                                                                    |                                                                                     |
| v/c Ratio              | 0.77                                                                                                                                                                | 0.69                                                                                                                                                                                                                                                  | 0.23                                                                              | 0.41                                                                              | 0.79                                                                                                                                                                                                                                                  | 0.29                                                                              | 0.54                                                                                | 0.63                                                                                                                                                                    | 0.10                                                                                | 0.61                                                                                                                                                                    | 0.64                                                                                                                                                                    | 0.37                                                                                |
| Control Delay          | 43.6                                                                                                                                                                | 21.9                                                                                                                                                                                                                                                  | 0.8                                                                               | 28.3                                                                              | 51.5                                                                                                                                                                                                                                                  | 2.7                                                                               | 50.0                                                                                | 59.1                                                                                                                                                                    | 1.4                                                                                 | 56.9                                                                                                                                                                    | 60.7                                                                                                                                                                    | 1.2                                                                                 |
| Queue Delay            | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                                                                                                     | 0.0                                                                                                                                                                     | 0.0                                                                                 |
| Total Delay            | 43.6                                                                                                                                                                | 21.9                                                                                                                                                                                                                                                  | 0.8                                                                               | 28.3                                                                              | 51.5                                                                                                                                                                                                                                                  | 2.7                                                                               | 50.0                                                                                | 59.1                                                                                                                                                                    | 1.4                                                                                 | 56.9                                                                                                                                                                    | 60.7                                                                                                                                                                    | 1.2                                                                                 |
| Queue Length 50th (m)  | 109.5                                                                                                                                                               | 138.1                                                                                                                                                                                                                                                 | 0.0                                                                               | 5.4                                                                               | 86.4                                                                                                                                                                                                                                                  | 0.0                                                                               | 29.8                                                                                | 45.5                                                                                                                                                                    | 0.0                                                                                 | 25.3                                                                                                                                                                    | 42.2                                                                                                                                                                    | 0.0                                                                                 |
| Queue Length 95th (m)  | #155.8                                                                                                                                                              | 183.5                                                                                                                                                                                                                                                 | 3.8                                                                               | 13.6                                                                              | 103.5                                                                                                                                                                                                                                                 | 10.1                                                                              | 46.2                                                                                | 59.2                                                                                                                                                                    | 3.0                                                                                 | 41.0                                                                                                                                                                    | 55.6                                                                                                                                                                    | 4.5                                                                                 |
| Internal Link Dist (m) |                                                                                                                                                                     | 980.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                   | 272.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                     | 844.0                                                                                                                                                                   |                                                                                     |                                                                                                                                                                         | 481.5                                                                                                                                                                   |                                                                                     |
| Turn Bay Length (m)    | 115.0                                                                                                                                                               |                                                                                                                                                                                                                                                       | 75.0                                                                              | 115.0                                                                             |                                                                                                                                                                                                                                                       | 110.0                                                                             | 115.0                                                                               |                                                                                                                                                                         | 65.0                                                                                | 115.0                                                                                                                                                                   |                                                                                                                                                                         | 135.0                                                                               |
| Base Capacity (vph)    | 1098                                                                                                                                                                | 2902                                                                                                                                                                                                                                                  | 1364                                                                              | 148                                                                               | 1287                                                                                                                                                                                                                                                  | 951                                                                               | 239                                                                                 | 1068                                                                                                                                                                    | 824                                                                                 | 179                                                                                                                                                                     | 998                                                                                                                                                                     | 1255                                                                                |
| Starvation Cap Reductn | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                       | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                       | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                                                                                                       | 0                                                                                   |
| Reduced v/c Ratio      | 0.77                                                                                                                                                                | 0.69                                                                                                                                                                                                                                                  | 0.21                                                                              | 0.41                                                                              | 0.72                                                                                                                                                                                                                                                  | 0.22                                                                              | 0.54                                                                                | 0.30                                                                                                                                                                    | 0.07                                                                                | 0.61                                                                                                                                                                    | 0.30                                                                                                                                                                    | 0.34                                                                                |

### Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Dixie Road & Mayfield Road

|                                                                                        |                                                                                            |                                                                                        |                                                                                         |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 (R) |  Ø3 |  Ø4 |
| 9.6 s                                                                                  | 66.4 s                                                                                     | 11.1 s                                                                                 | 47.9 s                                                                                  |
|  Ø5 |  Ø6 (R) |  Ø7 |  Ø8 |
| 31 s                                                                                   | 45 s                                                                                       | 11.1 s                                                                                 | 47.9 s                                                                                  |

# HCM Signalized Intersection Capacity Analysis

## 1: Dixie Road & Mayfield Road

Future Background 2033 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)              | 845                                                                               | 2005                                                                              | 280                                                                               | 60                                                                                | 930                                                                               | 205                                                                               | 130                                                                                 | 325                                                                                 | 60                                                                                  | 110                                                                                 | 300                                                                                 | 425                                                                                 |
| Future Volume (vph)               | 845                                                                               | 2005                                                                              | 280                                                                               | 60                                                                                | 930                                                                               | 205                                                                               | 130                                                                                 | 325                                                                                 | 60                                                                                  | 110                                                                                 | 300                                                                                 | 425                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 3.5                                                                               | 6.9                                                                               | 6.9                                                                               | 3.5                                                                               | 6.9                                                                               | 6.9                                                                               | 3.5                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 6.9                                                                                 |
| Lane Util. Factor                 | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 2886                                                                              | 4902                                                                              | 1554                                                                              | 1539                                                                              | 4561                                                                              | 1479                                                                              | 1666                                                                                | 3444                                                                                | 1319                                                                                | 1361                                                                                | 3288                                                                                | 1402                                                                                |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.11                                                                              | 1.00                                                                              | 1.00                                                                              | 0.45                                                                                | 1.00                                                                                | 1.00                                                                                | 0.39                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 2886                                                                              | 4902                                                                              | 1554                                                                              | 180                                                                               | 4561                                                                              | 1479                                                                              | 793                                                                                 | 3444                                                                                | 1319                                                                                | 561                                                                                 | 3288                                                                                | 1402                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 845                                                                               | 2005                                                                              | 280                                                                               | 60                                                                                | 930                                                                               | 205                                                                               | 130                                                                                 | 325                                                                                 | 60                                                                                  | 110                                                                                 | 300                                                                                 | 425                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 74                                                                                | 0                                                                                 | 0                                                                                 | 123                                                                               | 0                                                                                   | 0                                                                                   | 35                                                                                  | 0                                                                                   | 0                                                                                   | 116                                                                                 |
| Lane Group Flow (vph)             | 845                                                                               | 2005                                                                              | 206                                                                               | 60                                                                                | 930                                                                               | 82                                                                                | 130                                                                                 | 325                                                                                 | 25                                                                                  | 110                                                                                 | 300                                                                                 | 309                                                                                 |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   | 5                                                                                 | 5                                                                                 |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 20%                                                                               | 7%                                                                                | 1%                                                                                | 16%                                                                               | 15%                                                                               | 8%                                                                                | 7%                                                                                  | 6%                                                                                  | 19%                                                                                 | 31%                                                                                 | 11%                                                                                 | 12%                                                                                 |
| Turn Type                         | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                               | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases                  | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                   |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Actuated Green, G (s)             | 50.4                                                                              | 79.0                                                                              | 99.2                                                                              | 41.4                                                                              | 35.0                                                                              | 54.2                                                                              | 27.8                                                                                | 20.2                                                                                | 55.2                                                                                | 26.7                                                                                | 19.2                                                                                | 98.2                                                                                |
| Effective Green, g (s)            | 51.4                                                                              | 79.0                                                                              | 99.2                                                                              | 43.4                                                                              | 35.0                                                                              | 54.2                                                                              | 29.8                                                                                | 20.2                                                                                | 55.2                                                                                | 28.7                                                                                | 19.2                                                                                | 98.2                                                                                |
| Actuated g/C Ratio                | 0.38                                                                              | 0.59                                                                              | 0.73                                                                              | 0.32                                                                              | 0.26                                                                              | 0.40                                                                              | 0.22                                                                                | 0.15                                                                                | 0.41                                                                                | 0.21                                                                                | 0.14                                                                                | 0.73                                                                                |
| Clearance Time (s)                | 4.5                                                                               | 6.9                                                                               |                                                                                   | 4.5                                                                               | 6.9                                                                               |                                                                                   | 4.5                                                                                 | 6.0                                                                                 |                                                                                     | 4.5                                                                                 | 6.9                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 1098                                                                              | 2868                                                                              | 1141                                                                              | 132                                                                               | 1182                                                                              | 593                                                                               | 230                                                                                 | 515                                                                                 | 539                                                                                 | 169                                                                                 | 467                                                                                 | 1019                                                                                |
| v/s Ratio Prot                    | c0.29                                                                             | 0.41                                                                              |                                                                                   | 0.02                                                                              | c0.20                                                                             |                                                                                   | 0.04                                                                                | 0.09                                                                                |                                                                                     | c0.04                                                                               | 0.09                                                                                |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.13                                                                              | 0.12                                                                              |                                                                                   | 0.06                                                                              | 0.09                                                                                |                                                                                     | 0.02                                                                                | c0.10                                                                               |                                                                                     | 0.22                                                                                |
| v/c Ratio                         | 0.77                                                                              | 0.70                                                                              | 0.18                                                                              | 0.45                                                                              | 0.79                                                                              | 0.14                                                                              | 0.57                                                                                | 0.63                                                                                | 0.05                                                                                | 0.65                                                                                | 0.64                                                                                | 0.30                                                                                |
| Uniform Delay, d1                 | 36.6                                                                              | 19.7                                                                              | 5.5                                                                               | 43.5                                                                              | 46.5                                                                              | 25.6                                                                              | 44.7                                                                                | 53.9                                                                                | 24.0                                                                                | 46.2                                                                                | 54.7                                                                                | 6.4                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 3.3                                                                               | 1.4                                                                               | 0.1                                                                               | 2.5                                                                               | 5.3                                                                               | 0.1                                                                               | 3.2                                                                                 | 2.5                                                                                 | 0.0                                                                                 | 8.7                                                                                 | 3.0                                                                                 | 0.2                                                                                 |
| Delay (s)                         | 39.9                                                                              | 21.1                                                                              | 5.5                                                                               | 46.0                                                                              | 51.9                                                                              | 25.7                                                                              | 47.8                                                                                | 56.4                                                                                | 24.1                                                                                | 54.9                                                                                | 57.7                                                                                | 6.6                                                                                 |
| Level of Service                  | D                                                                                 | C                                                                                 | A                                                                                 | D                                                                                 | D                                                                                 | C                                                                                 | D                                                                                   | E                                                                                   | C                                                                                   | D                                                                                   | E                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 24.8                                                                              |                                                                                   |                                                                                   | 47.1                                                                              |                                                                                   |                                                                                     | 50.5                                                                                |                                                                                     |                                                                                     | 31.3                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 32.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.75                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 135.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 80.5%                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Queues

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Future Background 2033 (12489) AM Peak Hour



| Lane Group             | EBL   | EBR   | WBL   | WBT   | NBL   | NBT   | SBL   | SBT   | SBR   |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations    |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)   | 20    | 65    | 35    | 0     | 135   | 1125  | 15    | 735   | 40    |
| Future Volume (vph)    | 20    | 65    | 35    | 0     | 135   | 1125  | 15    | 735   | 40    |
| Lane Group Flow (vph)  | 20    | 65    | 35    | 5     | 135   | 1160  | 0     | 750   | 40    |
| Turn Type              | Perm  | Perm  | Perm  | NA    | Perm  | NA    | Perm  | NA    | Perm  |
| Protected Phases       |       |       |       | 8     |       | 2     |       | 6     |       |
| Permitted Phases       | 4     | 4     | 8     |       | 2     |       | 6     |       | 6     |
| Detector Phase         | 4     | 4     | 8     | 8     | 2     | 2     | 6     | 6     | 6     |
| Switch Phase           |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)      | 39.0  | 39.0  | 39.0  | 39.0  | 31.0  | 31.0  | 31.0  | 31.0  | 31.0  |
| Total Split (s)        | 42.0  | 42.0  | 42.0  | 42.0  | 78.0  | 78.0  | 78.0  | 78.0  | 78.0  |
| Total Split (%)        | 35.0% | 35.0% | 35.0% | 35.0% | 65.0% | 65.0% | 65.0% | 65.0% | 65.0% |
| Yellow Time (s)        | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| All-Red Time (s)       | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   |       | 6.0   | 6.0   |
| Lead/Lag               |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?     |       |       |       |       |       |       |       |       |       |
| Recall Mode            | None  | None  | None  | None  | C-Max | C-Max | C-Max | C-Max | C-Max |
| v/c Ratio              | 0.18  | 0.20  | 0.45  | 0.02  | 0.25  | 0.41  |       | 0.30  | 0.03  |
| Control Delay          | 52.5  | 1.4   | 69.4  | 0.2   | 4.3   | 3.7   |       | 1.0   | 0.2   |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |
| Total Delay            | 52.5  | 1.4   | 69.4  | 0.2   | 4.3   | 3.7   |       | 1.0   | 0.2   |
| Queue Length 50th (m)  | 4.7   | 0.0   | 8.4   | 0.0   | 6.1   | 33.0  |       | 1.1   | 0.3   |
| Queue Length 95th (m)  | 12.3  | 0.0   | 18.9  | 0.0   | 15.6  | 54.8  |       | 6.4   | m0.2  |
| Internal Link Dist (m) |       |       |       | 96.6  |       | 481.5 |       | 358.1 |       |
| Turn Bay Length (m)    | 15.0  | 15.0  | 15.0  |       | 70.0  |       |       |       | 65.0  |
| Base Capacity (vph)    | 393   | 577   | 271   | 551   | 543   | 2820  |       | 2467  | 1353  |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Reduced v/c Ratio      | 0.05  | 0.11  | 0.13  | 0.01  | 0.25  | 0.41  |       | 0.30  | 0.03  |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

#### Splits and Phases: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3



# HCM Signalized Intersection Capacity Analysis

5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Future Background 2033 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |  |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)              | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1125                                                                                | 35                                                                                  | 15                                                                                  | 735                                                                                 | 40                                                                                  |
| Future Volume (vph)               | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1125                                                                                | 35                                                                                  | 15                                                                                  | 735                                                                                 | 40                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              |                                                                                   | 0.85                                                                              | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              |                                                                                   | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1653                                                                              |                                                                                   | 1413                                                                              | 1137                                                                              | 1633                                                                              |                                                                                   | 1668                                                                                | 3343                                                                                |                                                                                     |                                                                                     | 3179                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.75                                                                              |                                                                                   | 1.00                                                                              | 0.76                                                                              | 1.00                                                                              |                                                                                   | 0.37                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.92                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1313                                                                              |                                                                                   | 1413                                                                              | 906                                                                               | 1633                                                                              |                                                                                   | 644                                                                                 | 3343                                                                                |                                                                                     |                                                                                     | 2924                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1125                                                                                | 35                                                                                  | 15                                                                                  | 735                                                                                 | 40                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 60                                                                                | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                   | 1                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 7                                                                                   |
| Lane Group Flow (vph)             | 20                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                | 0                                                                                 | 0                                                                                 | 135                                                                                 | 1159                                                                                | 0                                                                                   | 0                                                                                   | 750                                                                                 | 33                                                                                  |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     |                                                                                     |
| Heavy Vehicles (%)                | 8%                                                                                | 0%                                                                                | 13%                                                                               | 57%                                                                               | 0%                                                                                | 0%                                                                                | 7%                                                                                  | 8%                                                                                  | 28%                                                                                 | 0%                                                                                  | 15%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 9.1                                                                               |                                                                                   | 9.1                                                                               | 9.1                                                                               | 9.1                                                                               |                                                                                   | 98.9                                                                                | 98.9                                                                                |                                                                                     |                                                                                     | 98.9                                                                                | 98.9                                                                                |
| Effective Green, g (s)            | 9.1                                                                               |                                                                                   | 9.1                                                                               | 9.1                                                                               | 9.1                                                                               |                                                                                   | 98.9                                                                                | 98.9                                                                                |                                                                                     |                                                                                     | 98.9                                                                                | 98.9                                                                                |
| Actuated g/C Ratio                | 0.08                                                                              |                                                                                   | 0.08                                                                              | 0.08                                                                              | 0.08                                                                              |                                                                                   | 0.82                                                                                | 0.82                                                                                |                                                                                     |                                                                                     | 0.82                                                                                | 0.82                                                                                |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 99                                                                                |                                                                                   | 107                                                                               | 68                                                                                | 123                                                                               |                                                                                   | 530                                                                                 | 2755                                                                                |                                                                                     |                                                                                     | 2409                                                                                | 1316                                                                                |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                     | c0.35                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    | 0.02                                                                              |                                                                                   | 0.00                                                                              | c0.04                                                                             |                                                                                   |                                                                                   | 0.21                                                                                |                                                                                     |                                                                                     |                                                                                     | 0.26                                                                                | 0.02                                                                                |
| v/c Ratio                         | 0.20                                                                              |                                                                                   | 0.05                                                                              | 0.51                                                                              | 0.00                                                                              |                                                                                   | 0.25                                                                                | 0.42                                                                                |                                                                                     |                                                                                     | 0.31                                                                                | 0.03                                                                                |
| Uniform Delay, d1                 | 52.0                                                                              |                                                                                   | 51.4                                                                              | 53.3                                                                              | 51.3                                                                              |                                                                                   | 2.3                                                                                 | 2.8                                                                                 |                                                                                     |                                                                                     | 2.5                                                                                 | 1.9                                                                                 |
| Progression Factor                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.26                                                                                | 0.16                                                                                |
| Incremental Delay, d2             | 1.0                                                                               |                                                                                   | 0.2                                                                               | 6.4                                                                               | 0.0                                                                               |                                                                                   | 1.2                                                                                 | 0.5                                                                                 |                                                                                     |                                                                                     | 0.3                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 53.1                                                                              |                                                                                   | 51.6                                                                              | 59.8                                                                              | 51.3                                                                              |                                                                                   | 3.5                                                                                 | 3.3                                                                                 |                                                                                     |                                                                                     | 0.9                                                                                 | 0.3                                                                                 |
| Level of Service                  | D                                                                                 |                                                                                   | D                                                                                 | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 51.9                                                                              |                                                                                   |                                                                                   | 58.7                                                                              |                                                                                   |                                                                                     | 3.3                                                                                 |                                                                                     |                                                                                     | 0.9                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 5.3                                                                               |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.43                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 76.6%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



## Queues

### 7: Dixie Road & UPS Facility Access/12173 West Access 1 Future Background 2033 (12489) AM Peak Hour

|                        |  |  |  |  |  |      |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Lane Group             | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBL                                                                               | SBT                                                                               | Ø8   |
| Lane Configurations    |  |  |  |                                                                                   |  |      |
| Traffic Volume (vph)   | 5                                                                                 | 60                                                                                | 1030                                                                              | 15                                                                                | 815                                                                               |      |
| Future Volume (vph)    | 5                                                                                 | 60                                                                                | 1030                                                                              | 15                                                                                | 815                                                                               |      |
| Lane Group Flow (vph)  | 5                                                                                 | 60                                                                                | 1040                                                                              | 0                                                                                 | 845                                                                               |      |
| Turn Type              | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                |      |
| Protected Phases       |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   | 6                                                                                 | 8    |
| Permitted Phases       | 4                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 |                                                                                   |      |
| Detector Phase         | 4                                                                                 | 2                                                                                 | 2                                                                                 | 6                                                                                 | 6                                                                                 |      |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0  |
| Minimum Split (s)      | 39.0                                                                              | 31.0                                                                              | 31.0                                                                              | 31.0                                                                              | 31.0                                                                              | 39.0 |
| Total Split (s)        | 39.0                                                                              | 81.0                                                                              | 81.0                                                                              | 81.0                                                                              | 81.0                                                                              | 39.0 |
| Total Split (%)        | 32.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 33%  |
| Yellow Time (s)        | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0  |
| All-Red Time (s)       | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0  |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |      |
| Total Lost Time (s)    | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               |      |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Recall Mode            | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                             | C-Max                                                                             | None |
| v/c Ratio              | 0.02                                                                              | 0.10                                                                              | 0.32                                                                              |                                                                                   | 0.53                                                                              |      |
| Control Delay          | 0.2                                                                               | 0.9                                                                               | 0.7                                                                               |                                                                                   | 5.2                                                                               |      |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |      |
| Total Delay            | 0.2                                                                               | 0.9                                                                               | 0.7                                                                               |                                                                                   | 5.2                                                                               |      |
| Queue Length 50th (m)  | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   | 6.4                                                                               |      |
| Queue Length 95th (m)  | 0.0                                                                               | 3.7                                                                               | 24.3                                                                              |                                                                                   | 198.7                                                                             |      |
| Internal Link Dist (m) |                                                                                   |                                                                                   | 358.1                                                                             |                                                                                   | 696.2                                                                             |      |
| Turn Bay Length (m)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Base Capacity (vph)    | 418                                                                               | 605                                                                               | 3280                                                                              |                                                                                   | 1591                                                                              |      |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |      |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |      |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |      |
| Reduced v/c Ratio      | 0.01                                                                              | 0.10                                                                              | 0.32                                                                              |                                                                                   | 0.53                                                                              |      |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Splits and Phases: 7: Dixie Road & UPS Facility Access/12173 West Access 1



# HCM Signalized Intersection Capacity Analysis

7: Dixie Road & UPS Facility Access/12173 West Access 1 Future Background 2033 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)              | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1030                                                                                | 10                                                                                  | 15                                                                                  | 815                                                                                 | 15                                                                                  |
| Future Volume (vph)               | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1030                                                                                | 10                                                                                  | 15                                                                                  | 815                                                                                 | 15                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Lane Util. Factor                 |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                               |                                                                                   |                                                                                   | 0.85                                                                              |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flt Protected                     |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (prot)                 |                                                                                   |                                                                                   | 998                                                                               |                                                                                   |                                                                                   |                                                                                   | 1700                                                                                | 3377                                                                                |                                                                                     |                                                                                     | 1678                                                                                |                                                                                     |
| Flt Permitted                     |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.35                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.97                                                                                |                                                                                     |
| Satd. Flow (perm)                 |                                                                                   |                                                                                   | 998                                                                               |                                                                                   |                                                                                   |                                                                                   | 623                                                                                 | 3377                                                                                |                                                                                     |                                                                                     | 1638                                                                                |                                                                                     |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1030                                                                                | 10                                                                                  | 15                                                                                  | 815                                                                                 | 15                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1040                                                                                | 0                                                                                   | 0                                                                                   | 845                                                                                 | 0                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 60%                                                                               | 0%                                                                                | 0%                                                                                | 0%                                                                                | 5%                                                                                  | 8%                                                                                  | 0%                                                                                  | 0%                                                                                  | 12%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     |                                                                                     | 6                                                                                   |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Actuated Green, G (s)             |                                                                                   |                                                                                   | 1.1                                                                               |                                                                                   |                                                                                   |                                                                                   | 106.9                                                                               | 106.9                                                                               |                                                                                     |                                                                                     | 106.9                                                                               |                                                                                     |
| Effective Green, g (s)            |                                                                                   |                                                                                   | 1.1                                                                               |                                                                                   |                                                                                   |                                                                                   | 106.9                                                                               | 106.9                                                                               |                                                                                     |                                                                                     | 106.9                                                                               |                                                                                     |
| Actuated g/C Ratio                |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.89                                                                                | 0.89                                                                                |                                                                                     |                                                                                     | 0.89                                                                                |                                                                                     |
| Clearance Time (s)                |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                |                                                                                   |                                                                                   | 9                                                                                 |                                                                                   |                                                                                   |                                                                                   | 554                                                                                 | 3008                                                                                |                                                                                     |                                                                                     | 1459                                                                                |                                                                                     |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.31                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | c0.00                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.10                                                                                |                                                                                     |                                                                                     |                                                                                     | c0.52                                                                               |                                                                                     |
| v/c Ratio                         |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.11                                                                                | 0.35                                                                                |                                                                                     |                                                                                     | 0.58                                                                                |                                                                                     |
| Uniform Delay, d1                 |                                                                                   |                                                                                   | 58.9                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.8                                                                                 | 1.0                                                                                 |                                                                                     |                                                                                     | 1.5                                                                                 |                                                                                     |
| Progression Factor                |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.99                                                                                | 0.96                                                                                |                                                                                     |                                                                                     | 4.69                                                                                |                                                                                     |
| Incremental Delay, d2             |                                                                                   |                                                                                   | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                   | 0.4                                                                                 | 0.3                                                                                 |                                                                                     |                                                                                     | 1.5                                                                                 |                                                                                     |
| Delay (s)                         |                                                                                   |                                                                                   | 59.1                                                                              |                                                                                   |                                                                                   |                                                                                   | 1.2                                                                                 | 1.3                                                                                 |                                                                                     |                                                                                     | 8.4                                                                                 |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| Approach Delay (s)                |                                                                                   | 59.1                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                     | 1.3                                                                                 |                                                                                     |                                                                                     | 8.4                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 4.5                                                                               |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.57                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 60.8%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Dixie Road & 12489 Site Access 1

Future Background 2033 (12489) AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 0                                                                                 | 1005                                                                              | 0                                                                                 | 0                                                                                 | 815                                                                               |
| Future Volume (Veh/h)             | 0                                                                                 | 0                                                                                 | 1005                                                                              | 0                                                                                 | 0                                                                                 | 815                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 0                                                                                 | 1005                                                                              | 0                                                                                 | 0                                                                                 | 815                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 394                                                                               |
| pX, platoon unblocked             | 0.86                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1820                                                                              | 1005                                                                              |                                                                                   |                                                                                   | 1005                                                                              |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1872                                                                              | 1005                                                                              |                                                                                   |                                                                                   | 1005                                                                              |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 100                                                                               |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 69                                                                                | 296                                                                               |                                                                                   |                                                                                   | 697                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 0                                                                                 | 1005                                                                              | 0                                                                                 | 815                                                                               |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 697                                                                               |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.00                                                                              | 0.59                                                                              | 0.04                                                                              | 0.00                                                                              |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 56.2%                                                                             |                                                                                   | ICU Level of Service                                                              | B                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Future Background 2033 (12489) AM Peak Hour



| Lane Group             | EBL   | EBT   | NBL   | NBT   | SBT   | SBR   | Ø8   |
|------------------------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations    |       |       |       |       |       |       |      |
| Traffic Volume (vph)   | 15    | 0     | 70    | 935   | 790   | 25    |      |
| Future Volume (vph)    | 15    | 0     | 70    | 935   | 790   | 25    |      |
| Lane Group Flow (vph)  | 15    | 30    | 70    | 935   | 790   | 25    |      |
| Turn Type              | Perm  | NA    | Perm  | NA    | NA    | Perm  |      |
| Protected Phases       |       | 4     |       | 2     | 6     |       | 8    |
| Permitted Phases       | 4     |       | 2     |       |       | 6     |      |
| Detector Phase         | 4     | 4     | 2     | 2     | 6     | 6     |      |
| Switch Phase           |       |       |       |       |       |       |      |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0  |
| Minimum Split (s)      | 30.5  | 30.5  | 28.5  | 28.5  | 28.5  | 28.5  | 30.5 |
| Total Split (s)        | 30.5  | 30.5  | 89.5  | 89.5  | 89.5  | 89.5  | 30.5 |
| Total Split (%)        | 25.4% | 25.4% | 74.6% | 74.6% | 74.6% | 74.6% | 25%  |
| Yellow Time (s)        | 4.0   | 4.0   | 4.5   | 4.5   | 4.5   | 4.5   | 4.0  |
| All-Red Time (s)       | 2.5   | 2.5   | 2.0   | 2.0   | 2.0   | 2.0   | 2.5  |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5   | 6.5   | 6.5   | 6.5   |      |
| Lead/Lag               |       |       |       |       |       |       |      |
| Lead-Lag Optimize?     |       |       |       |       |       |       |      |
| Recall Mode            | None  | None  | C-Max | C-Max | C-Max | C-Max | None |
| v/c Ratio              | 0.16  | 0.09  | 0.12  | 0.59  | 0.52  | 0.02  |      |
| Control Delay          | 56.9  | 0.6   | 4.6   | 11.3  | 7.7   | 1.7   |      |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Delay            | 56.9  | 0.6   | 4.6   | 11.3  | 7.7   | 1.7   |      |
| Queue Length 50th (m)  | 3.6   | 0.0   | 5.7   | 146.2 | 30.7  | 0.0   |      |
| Queue Length 95th (m)  | 10.8  | 0.0   | 14.0  | 227.1 | 206.3 | m2.0  |      |
| Internal Link Dist (m) |       | 161.0 |       | 369.7 | 813.5 |       |      |
| Turn Bay Length (m)    | 20.0  |       | 60.0  |       |       | 60.0  |      |
| Base Capacity (vph)    | 327   | 523   | 574   | 1579  | 1523  | 1435  |      |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Reduced v/c Ratio      | 0.05  | 0.06  | 0.12  | 0.59  | 0.52  | 0.02  |      |

## Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

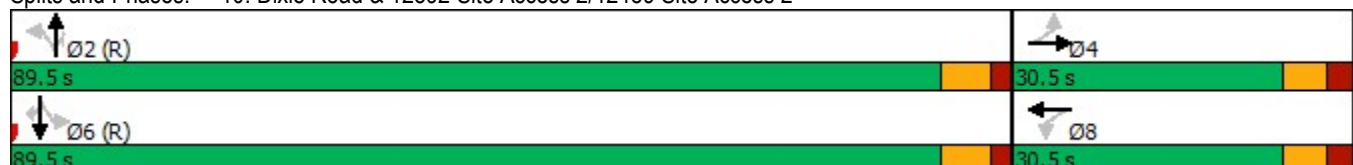
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2



# HCM Signalized Intersection Capacity Analysis

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Future Background 2033 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 15                                                                                | 0                                                                                 | 30                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 70                                                                                  | 935                                                                                 | 0                                                                                   | 0                                                                                   | 790                                                                                 | 25                                                                                  |
| Future Volume (vph)               | 15                                                                                | 0                                                                                 | 30                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 70                                                                                  | 935                                                                                 | 0                                                                                   | 0                                                                                   | 790                                                                                 | 25                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.0                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.5                                                                               | 6.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 0.85                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              | 1633                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1785                                                                                | 1762                                                                                |                                                                                     |                                                                                     | 1700                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.87                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.34                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1634                                                                              | 1633                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 640                                                                                 | 1762                                                                                |                                                                                     |                                                                                     | 1700                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 15                                                                                | 0                                                                                 | 30                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 70                                                                                  | 935                                                                                 | 0                                                                                   | 0                                                                                   | 790                                                                                 | 25                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 29                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 4                                                                                   |
| Lane Group Flow (vph)             | 15                                                                                | 1                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 70                                                                                  | 935                                                                                 | 0                                                                                   | 0                                                                                   | 790                                                                                 | 21                                                                                  |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                  | 9%                                                                                  | 0%                                                                                  | 0%                                                                                  | 13%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              |                                                                                   |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 4.6                                                                               | 4.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 102.4                                                                               | 102.4                                                                               |                                                                                     |                                                                                     | 102.4                                                                               | 102.4                                                                               |
| Effective Green, g (s)            | 4.6                                                                               | 4.6                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 102.4                                                                               | 102.4                                                                               |                                                                                     |                                                                                     | 102.4                                                                               | 102.4                                                                               |
| Actuated g/C Ratio                | 0.04                                                                              | 0.04                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.85                                                                                | 0.85                                                                                |                                                                                     |                                                                                     | 0.85                                                                                | 0.85                                                                                |
| Clearance Time (s)                | 6.5                                                                               | 6.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 62                                                                                | 62                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 546                                                                                 | 1503                                                                                |                                                                                     |                                                                                     | 1450                                                                                | 1362                                                                                |
| v/s Ratio Prot                    |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | c0.53                                                                               |                                                                                     |                                                                                     | 0.46                                                                                |                                                                                     |
| v/s Ratio Perm                    | c0.01                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.11                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.01                                                                                |
| v/c Ratio                         | 0.24                                                                              | 0.02                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.13                                                                                | 0.62                                                                                |                                                                                     |                                                                                     | 0.54                                                                                | 0.02                                                                                |
| Uniform Delay, d1                 | 56.0                                                                              | 55.5                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.4                                                                                 | 2.8                                                                                 |                                                                                     |                                                                                     | 2.4                                                                                 | 1.3                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 2.30                                                                                | 3.23                                                                                |                                                                                     |                                                                                     | 2.53                                                                                | 3.22                                                                                |
| Incremental Delay, d2             | 2.0                                                                               | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.5                                                                                 | 1.9                                                                                 |                                                                                     |                                                                                     | 1.3                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 58.0                                                                              | 55.6                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3.8                                                                                 | 10.8                                                                                |                                                                                     |                                                                                     | 7.4                                                                                 | 4.2                                                                                 |
| Level of Service                  | E                                                                                 | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                   | B                                                                                   |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 56.4                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                     | 10.3                                                                                |                                                                                     |                                                                                     | 7.3                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 10.1                                                                              |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.61                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 13.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 73.2%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

c Critical Lane Group

# HCM Unsignalized Intersection Capacity Analysis

## 11: Dixie Road & 12861 Site Access 1

Future Background 2033 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |                                                                                   |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 20                                                                                | 800                                                                               | 150                                                                               | 0                                                                                 | 815                                                                               |
| Future Volume (Veh/h)             | 0                                                                                 | 20                                                                                | 800                                                                               | 150                                                                               | 0                                                                                 | 815                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 20                                                                                | 800                                                                               | 150                                                                               | 0                                                                                 | 815                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 240                                                                               |
| pX, platoon unblocked             | 0.74                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1690                                                                              | 875                                                                               |                                                                                   |                                                                                   | 950                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1756                                                                              | 875                                                                               |                                                                                   |                                                                                   | 950                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 94                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 70                                                                                | 351                                                                               |                                                                                   |                                                                                   | 731                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 20                                                                                | 950                                                                               | 815                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 20                                                                                | 150                                                                               | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 351                                                                               | 1700                                                                              | 1700                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.06                                                                              | 0.56                                                                              | 0.48                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 1.4                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 15.9                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 15.9                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   | 61.2%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   | B                                                                                 |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

## Queues

### 12: Dixie Road & Old School Road

Future Background 2033 (12489) AM Peak Hour

|                        |  |  |  |  |  |  |   |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 60                                                                                | 370                                                                               | 75                                                                                | 165                                                                               | 160                                                                               | 45                                                                                | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| Future Volume (vph)    | 60                                                                                | 370                                                                               | 75                                                                                | 165                                                                               | 160                                                                               | 45                                                                                | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| Lane Group Flow (vph)  | 60                                                                                | 370                                                                               | 75                                                                                | 165                                                                               | 170                                                                               | 45                                                                                | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| Turn Type              | Perm                                                                              | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 4                                                                                 | 3                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 9.5                                                                               | 31.5                                                                              | 31.5                                                                              | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                |
| Total Split (s)        | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 20.0                                                                              | 59.0                                                                              | 61.0                                                                              | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                |
| Total Split (%)        | 32.5%                                                                             | 32.5%                                                                             | 32.5%                                                                             | 16.7%                                                                             | 49.2%                                                                             | 50.8%                                                                             | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               |
| Yellow Time (s)        | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 1.0                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               | Lag                                                                               | Lag                                                                               | Lag                                                                               | Lead                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Min                                                                             | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               |
| v/c Ratio              | 0.22                                                                              | 0.83                                                                              | 0.19                                                                              | 0.58                                                                              | 0.25                                                                              | 0.25                                                                              | 0.22                                                                                | 0.07                                                                                | 0.10                                                                                | 0.57                                                                                | 0.21                                                                                |
| Control Delay          | 37.1                                                                              | 59.8                                                                              | 8.4                                                                               | 31.7                                                                              | 8.0                                                                               | 24.8                                                                              | 17.7                                                                                | 7.1                                                                                 | 17.8                                                                                | 24.4                                                                                | 3.3                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 37.1                                                                              | 59.8                                                                              | 8.4                                                                               | 31.7                                                                              | 8.0                                                                               | 24.8                                                                              | 17.7                                                                                | 7.1                                                                                 | 17.8                                                                                | 24.4                                                                                | 3.3                                                                                 |
| Queue Length 50th (m)  | 12.0                                                                              | 87.3                                                                              | 0.0                                                                               | 26.1                                                                              | 4.7                                                                               | 6.1                                                                               | 26.7                                                                                | 1.7                                                                                 | 7.4                                                                                 | 90.9                                                                                | 0.0                                                                                 |
| Queue Length 95th (m)  | 22.9                                                                              | 116.1                                                                             | 11.6                                                                              | 55.6                                                                              | 56.6                                                                              | m17.2                                                                             | 61.5                                                                                | m8.8                                                                                | 17.7                                                                                | 147.6                                                                               | 13.4                                                                                |
| Internal Link Dist (m) |                                                                                   | 371.4                                                                             |                                                                                   |                                                                                   | 41.8                                                                              |                                                                                   | 216.1                                                                               |                                                                                     |                                                                                     | 261.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 75.0                                                                              |                                                                                   | 75.0                                                                              | 65.0                                                                              |                                                                                   | 75.0                                                                              |                                                                                     | 50.0                                                                                | 75.0                                                                                |                                                                                     | 75.0                                                                                |
| Base Capacity (vph)    | 325                                                                               | 522                                                                               | 456                                                                               | 325                                                                               | 790                                                                               | 178                                                                               | 930                                                                                 | 827                                                                                 | 591                                                                                 | 966                                                                                 | 917                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.18                                                                              | 0.71                                                                              | 0.16                                                                              | 0.51                                                                              | 0.22                                                                              | 0.25                                                                              | 0.22                                                                                | 0.07                                                                                | 0.10                                                                                | 0.57                                                                                | 0.21                                                                                |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

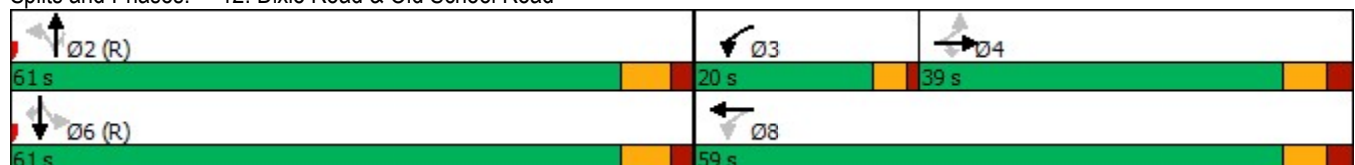
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

#### Splits and Phases: 12: Dixie Road & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 12: Dixie Road & Old School Road

Future Background 2033 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |   |  |  |  |  |  |
| Traffic Volume (vph)              | 60                                                                                | 370                                                                               | 75                                                                                | 165                                                                               | 160                                                                               | 10                                                                                | 45                                                                                  | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| Future Volume (vph)               | 60                                                                                | 370                                                                               | 75                                                                                | 165                                                                               | 160                                                                               | 10                                                                                | 45                                                                                  | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1733                                                                              | 1902                                                                              | 1465                                                                              | 1785                                                                              | 1792                                                                              |                                                                                   | 1008                                                                                | 1779                                                                                | 1521                                                                                | 1733                                                                                | 1847                                                                                | 1581                                                                                |
| Flt Permitted                     | 0.65                                                                              | 1.00                                                                              | 1.00                                                                              | 0.18                                                                              | 1.00                                                                              |                                                                                   | 0.32                                                                                | 1.00                                                                                | 1.00                                                                                | 0.62                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1185                                                                              | 1902                                                                              | 1465                                                                              | 340                                                                               | 1792                                                                              |                                                                                   | 340                                                                                 | 1779                                                                                | 1521                                                                                | 1132                                                                                | 1847                                                                                | 1581                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 60                                                                                | 370                                                                               | 75                                                                                | 165                                                                               | 160                                                                               | 10                                                                                | 45                                                                                  | 205                                                                                 | 55                                                                                  | 60                                                                                  | 550                                                                                 | 190                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 58                                                                                | 0                                                                                 | 2                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 26                                                                                  | 0                                                                                   | 0                                                                                   | 91                                                                                  |
| Lane Group Flow (vph)             | 60                                                                                | 370                                                                               | 18                                                                                | 165                                                                               | 168                                                                               | 0                                                                                 | 45                                                                                  | 205                                                                                 | 29                                                                                  | 60                                                                                  | 550                                                                                 | 99                                                                                  |
| Heavy Vehicles (%)                | 3%                                                                                | 1%                                                                                | 9%                                                                                | 0%                                                                                | 6%                                                                                | 10%                                                                               | 77%                                                                                 | 8%                                                                                  | 5%                                                                                  | 3%                                                                                  | 4%                                                                                  | 1%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 28.0                                                                              | 28.0                                                                              | 28.0                                                                              | 44.5                                                                              | 44.5                                                                              |                                                                                   | 62.5                                                                                | 62.5                                                                                | 62.5                                                                                | 62.5                                                                                | 62.5                                                                                | 62.5                                                                                |
| Effective Green, g (s)            | 28.0                                                                              | 28.0                                                                              | 28.0                                                                              | 44.5                                                                              | 44.5                                                                              |                                                                                   | 62.5                                                                                | 62.5                                                                                | 62.5                                                                                | 62.5                                                                                | 62.5                                                                                | 62.5                                                                                |
| Actuated g/C Ratio                | 0.23                                                                              | 0.23                                                                              | 0.23                                                                              | 0.37                                                                              | 0.37                                                                              |                                                                                   | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                |
| Clearance Time (s)                | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 276                                                                               | 443                                                                               | 341                                                                               | 276                                                                               | 664                                                                               |                                                                                   | 177                                                                                 | 926                                                                                 | 792                                                                                 | 589                                                                                 | 961                                                                                 | 823                                                                                 |
| v/s Ratio Prot                    |                                                                                   | c0.19                                                                             |                                                                                   | c0.06                                                                             | 0.09                                                                              |                                                                                   |                                                                                     | 0.12                                                                                |                                                                                     |                                                                                     | c0.30                                                                               |                                                                                     |
| v/s Ratio Perm                    | 0.05                                                                              |                                                                                   | 0.01                                                                              | 0.16                                                                              |                                                                                   |                                                                                   | 0.13                                                                                |                                                                                     | 0.02                                                                                | 0.05                                                                                |                                                                                     | 0.06                                                                                |
| v/c Ratio                         | 0.22                                                                              | 0.84                                                                              | 0.05                                                                              | 0.60                                                                              | 0.25                                                                              |                                                                                   | 0.25                                                                                | 0.22                                                                                | 0.04                                                                                | 0.10                                                                                | 0.57                                                                                | 0.12                                                                                |
| Uniform Delay, d1                 | 37.2                                                                              | 43.8                                                                              | 35.7                                                                              | 28.4                                                                              | 26.2                                                                              |                                                                                   | 15.9                                                                                | 15.6                                                                                | 14.0                                                                                | 14.5                                                                                | 19.6                                                                                | 14.7                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.01                                                                              | 0.29                                                                              |                                                                                   | 1.06                                                                                | 0.98                                                                                | 2.19                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 0.4                                                                               | 12.8                                                                              | 0.1                                                                               | 3.4                                                                               | 0.2                                                                               |                                                                                   | 2.8                                                                                 | 0.5                                                                                 | 0.1                                                                                 | 0.3                                                                                 | 2.5                                                                                 | 0.3                                                                                 |
| Delay (s)                         | 37.5                                                                              | 56.6                                                                              | 35.8                                                                              | 32.2                                                                              | 7.8                                                                               |                                                                                   | 19.7                                                                                | 15.7                                                                                | 30.8                                                                                | 14.9                                                                                | 22.1                                                                                | 15.0                                                                                |
| Level of Service                  | D                                                                                 | E                                                                                 | D                                                                                 | C                                                                                 | A                                                                                 |                                                                                   | B                                                                                   | B                                                                                   | C                                                                                   | B                                                                                   | C                                                                                   | B                                                                                   |
| Approach Delay (s)                |                                                                                   | 51.2                                                                              |                                                                                   |                                                                                   | 19.8                                                                              |                                                                                   |                                                                                     | 19.0                                                                                |                                                                                     |                                                                                     | 19.9                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | B                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 27.9                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.65                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 17.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 81.3%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# HCM Unsignalized Intersection Capacity Analysis

## 13: 12861 Site Access 2 & Old School Road

Future Background 2033 (12489) AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBR                                                                               |
| Lane Configurations               |  |                                                                                   |                                                                                   |  |                                                                                   |  |
| Traffic Volume (veh/h)            | 440                                                                               | 40                                                                                | 0                                                                                 | 340                                                                               | 0                                                                                 | 5                                                                                 |
| Future Volume (Veh/h)             | 440                                                                               | 40                                                                                | 0                                                                                 | 340                                                                               | 0                                                                                 | 5                                                                                 |
| Sign Control                      | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              | Stop                                                                              |                                                                                   |
| Grade                             | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                | 0%                                                                                |                                                                                   |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 440                                                                               | 40                                                                                | 0                                                                                 | 340                                                                               | 0                                                                                 | 5                                                                                 |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       | None                                                                              |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               | 66                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| pX, platoon unblocked             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            |                                                                                   |                                                                                   | 480                                                                               |                                                                                   | 630                                                                               | 240                                                                               |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                |                                                                                   |                                                                                   | 480                                                                               |                                                                                   | 630                                                                               | 240                                                                               |
| tC, single (s)                    |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   | 6.8                                                                               | 6.9                                                                               |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   | 3.5                                                                               | 3.3                                                                               |
| p0 queue free %                   |                                                                                   |                                                                                   | 100                                                                               |                                                                                   | 100                                                                               | 99                                                                                |
| cM capacity (veh/h)               |                                                                                   |                                                                                   | 1093                                                                              |                                                                                   | 418                                                                               | 767                                                                               |
| Direction, Lane #                 | EB 1                                                                              | EB 2                                                                              | WB 1                                                                              | WB 2                                                                              | NB 1                                                                              |                                                                                   |
| Volume Total                      | 293                                                                               | 187                                                                               | 170                                                                               | 170                                                                               | 5                                                                                 |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |
| Volume Right                      | 0                                                                                 | 40                                                                                | 0                                                                                 | 0                                                                                 | 5                                                                                 |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 1700                                                                              | 767                                                                               |                                                                                   |
| Volume to Capacity                | 0.17                                                                              | 0.11                                                                              | 0.10                                                                              | 0.10                                                                              | 0.01                                                                              |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.2                                                                               |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 9.7                                                                               |                                                                                   |
| Lane LOS                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   | 9.7                                                                               |                                                                                   |
| Approach LOS                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 23.4%                                                                             |                                                                                   | ICU Level of Service                                                              |                                                                                   |
|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

### 14: 12861 Site Access 3 & Old School Road

Future Background 2033 (12489) AM Peak Hour

|                        | →     | ↘     | ↙      | ←     | ↖     |
|------------------------|-------|-------|--------|-------|-------|
| Lane Group             | EBT   | EBR   | WBL    | WBT   | NBL   |
| Lane Configurations    | ↑↑    | ↑     | ↘      | ↑↑    | ↘     |
| Traffic Volume (vph)   | 440   | 5     | 30     | 275   | 65    |
| Future Volume (vph)    | 440   | 5     | 30     | 275   | 65    |
| Lane Group Flow (vph)  | 440   | 5     | 30     | 275   | 70    |
| Turn Type              | NA    | Perm  | custom | NA    | Prot  |
| Protected Phases       | 4     |       |        |       | 2     |
| Permitted Phases       |       | 4     | 8      | 8     |       |
| Detector Phase         | 4     | 4     | 8      | 8     | 2     |
| Switch Phase           |       |       |        |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0    | 5.0   | 5.0   |
| Minimum Split (s)      | 28.5  | 28.5  | 31.5   | 31.5  | 31.5  |
| Total Split (s)        | 60.0  | 60.0  | 60.0   | 60.0  | 60.0  |
| Total Split (%)        | 50.0% | 50.0% | 50.0%  | 50.0% | 50.0% |
| Yellow Time (s)        | 4.5   | 4.5   | 4.5    | 4.5   | 4.0   |
| All-Red Time (s)       | 2.0   | 2.0   | 2.0    | 2.0   | 2.5   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5    | 6.5   | 6.5   |
| Lead/Lag               |       |       |        |       |       |
| Lead-Lag Optimize?     |       |       |        |       |       |
| Recall Mode            | None  | None  | None   | None  | C-Min |
| v/c Ratio              | 0.72  | 0.02  | 0.33   | 0.45  | 0.05  |
| Control Delay          | 40.3  | 11.2  | 52.3   | 46.6  | 5.3   |
| Queue Delay            | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   |
| Total Delay            | 40.3  | 11.2  | 52.3   | 46.6  | 5.3   |
| Queue Length 50th (m)  | 60.3  | 0.7   | 6.6    | 32.6  | 4.1   |
| Queue Length 95th (m)  | 66.8  | m0.7  | 16.1   | 44.2  | 9.8   |
| Internal Link Dist (m) | 433.3 |       |        | 157.0 | 183.7 |
| Turn Bay Length (m)    |       | 50.0  | 95.0   |       |       |
| Base Capacity (vph)    | 1627  | 714   | 246    | 1627  | 1287  |
| Starvation Cap Reductn | 0     | 0     | 0      | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0      | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0      | 0     | 0     |
| Reduced v/c Ratio      | 0.27  | 0.01  | 0.12   | 0.17  | 0.05  |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

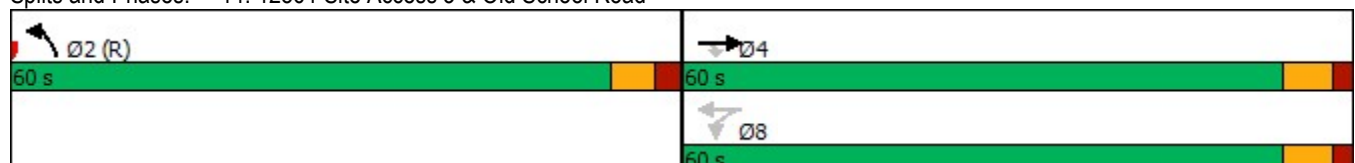
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: 12861 Site Access 3 & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 14: 12861 Site Access 3 & Old School Road

Future Background 2033 (12489) AM Peak Hour

|                                   | →     | ↘    | ↙      | ←    | ↖                         | ↗    |
|-----------------------------------|-------|------|--------|------|---------------------------|------|
| Movement                          | EBT   | EBR  | WBL    | WBT  | NBL                       | NBR  |
| Lane Configurations               | ↑↑    | ↑    | ↓      | ↑↑   | ↓                         |      |
| Traffic Volume (vph)              | 440   | 5    | 30     | 275  | 65                        | 5    |
| Future Volume (vph)               | 440   | 5    | 30     | 275  | 65                        | 5    |
| Ideal Flow (vphpl)                | 1900  | 1900 | 1900   | 1900 | 1900                      | 1900 |
| Lane Width                        | 3.7   | 3.5  | 3.5    | 3.7  | 3.5                       | 3.5  |
| Total Lost time (s)               | 6.5   | 6.5  | 6.5    | 6.5  | 6.5                       |      |
| Lane Util. Factor                 | 0.95  | 1.00 | 1.00   | 0.95 | 1.00                      |      |
| Frt                               | 1.00  | 0.85 | 1.00   | 1.00 | 0.99                      |      |
| Flt Protected                     | 1.00  | 1.00 | 0.95   | 1.00 | 0.96                      |      |
| Satd. Flow (prot)                 | 3650  | 1597 | 1785   | 3650 | 1778                      |      |
| Flt Permitted                     | 1.00  | 1.00 | 0.29   | 1.00 | 0.96                      |      |
| Satd. Flow (perm)                 | 3650  | 1597 | 553    | 3650 | 1778                      |      |
| Peak-hour factor, PHF             | 1.00  | 1.00 | 1.00   | 1.00 | 1.00                      | 1.00 |
| Adj. Flow (vph)                   | 440   | 5    | 30     | 275  | 65                        | 5    |
| RTOR Reduction (vph)              | 0     | 4    | 0      | 0    | 1                         | 0    |
| Lane Group Flow (vph)             | 440   | 1    | 30     | 275  | 69                        | 0    |
| Heavy Vehicles (%)                | 0%    | 0%   | 0%     | 0%   | 0%                        | 0%   |
| Turn Type                         | NA    | Perm | custom | NA   | Prot                      |      |
| Protected Phases                  | 4     |      |        |      | 2                         |      |
| Permitted Phases                  |       | 4    | 8      | 8    |                           |      |
| Actuated Green, G (s)             | 20.2  | 20.2 | 20.2   | 20.2 | 86.8                      |      |
| Effective Green, g (s)            | 20.2  | 20.2 | 20.2   | 20.2 | 86.8                      |      |
| Actuated g/C Ratio                | 0.17  | 0.17 | 0.17   | 0.17 | 0.72                      |      |
| Clearance Time (s)                | 6.5   | 6.5  | 6.5    | 6.5  | 6.5                       |      |
| Vehicle Extension (s)             | 3.0   | 3.0  | 3.0    | 3.0  | 3.0                       |      |
| Lane Grp Cap (vph)                | 614   | 268  | 93     | 614  | 1286                      |      |
| v/s Ratio Prot                    | c0.12 |      |        |      | c0.04                     |      |
| v/s Ratio Perm                    |       | 0.00 | 0.05   | 0.08 |                           |      |
| v/c Ratio                         | 0.72  | 0.00 | 0.32   | 0.45 | 0.05                      |      |
| Uniform Delay, d1                 | 47.2  | 41.5 | 43.9   | 44.9 | 4.8                       |      |
| Progression Factor                | 0.74  | 0.49 | 1.00   | 1.00 | 1.00                      |      |
| Incremental Delay, d2             | 3.4   | 0.0  | 2.0    | 0.5  | 0.1                       |      |
| Delay (s)                         | 38.0  | 20.4 | 45.9   | 45.4 | 4.9                       |      |
| Level of Service                  | D     | C    | D      | D    | A                         |      |
| Approach Delay (s)                | 37.9  |      |        | 45.5 | 4.9                       |      |
| Approach LOS                      | D     |      |        | D    | A                         |      |
| <b>Intersection Summary</b>       |       |      |        |      |                           |      |
| HCM 2000 Control Delay            |       |      | 37.9   |      | HCM 2000 Level of Service | D    |
| HCM 2000 Volume to Capacity ratio |       |      | 0.18   |      |                           |      |
| Actuated Cycle Length (s)         |       |      | 120.0  |      | Sum of lost time (s)      | 13.0 |
| Intersection Capacity Utilization |       |      | 36.7%  |      | ICU Level of Service      | A    |
| Analysis Period (min)             |       |      | 15     |      |                           |      |
| c Critical Lane Group             |       |      |        |      |                           |      |

# HCM Unsignalized Intersection Capacity Analysis

## 15: Bramalea Road & Old School Road

Future Background 2033 (12489) AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 20                                                                                | 335                                                                               | 85                                                                                | 25                                                                                | 205                                                                               | 0                                                                                 | 40                                                                                 | 85                                                                                  | 20                                                                                  | 5                                                                                   | 170                                                                                 | 60                                                                                  |
| Future Volume (vph)               | 20                                                                                | 335                                                                               | 85                                                                                | 25                                                                                | 205                                                                               | 0                                                                                 | 40                                                                                 | 85                                                                                  | 20                                                                                  | 5                                                                                   | 170                                                                                 | 60                                                                                  |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Hourly flow rate (vph)            | 20                                                                                | 335                                                                               | 85                                                                                | 25                                                                                | 205                                                                               | 0                                                                                 | 40                                                                                 | 85                                                                                  | 20                                                                                  | 5                                                                                   | 170                                                                                 | 60                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 440                                                                               | 230                                                                               | 145                                                                               | 235                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 20                                                                                | 25                                                                                | 40                                                                                | 5                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 85                                                                                | 0                                                                                 | 20                                                                                | 60                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | -0.07                                                                             | 0.09                                                                              | 0.07                                                                              | -0.12                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 5.5                                                                               | 6.0                                                                               | 6.4                                                                               | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.67                                                                              | 0.38                                                                              | 0.26                                                                              | 0.39                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 630                                                                               | 540                                                                               | 480                                                                               | 536                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 18.7                                                                              | 12.6                                                                              | 11.6                                                                              | 12.8                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 18.7                                                                              | 12.6                                                                              | 11.6                                                                              | 12.8                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   |                                                                                   | 15.1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 57.6%                                                                             | ICU Level of Service                                                              | B                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Queues

## 1: Dixie Road & Mayfield Road

Future Background 2033 (12489) PM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 555                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 105                                                                               | 210                                                                                 | 245                                                                                 | 60                                                                                  | 165                                                                                 | 275                                                                                 | 1065                                                                                |
| Future Volume (vph)    | 555                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 105                                                                               | 210                                                                                 | 245                                                                                 | 60                                                                                  | 165                                                                                 | 275                                                                                 | 1065                                                                                |
| Lane Group Flow (vph)  | 555                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 105                                                                               | 210                                                                                 | 245                                                                                 | 60                                                                                  | 165                                                                                 | 275                                                                                 | 1065                                                                                |
| Turn Type              | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                               | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases       | 5                                                                                 | 2                                                                                 | 7                                                                                 | 1                                                                                 | 6                                                                                 | 3                                                                                 | 7                                                                                   | 4                                                                                   | 1                                                                                   | 3                                                                                   | 8                                                                                   | 5                                                                                   |
| Permitted Phases       |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                   |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Detector Phase         | 5                                                                                 | 2                                                                                 | 7                                                                                 | 1                                                                                 | 6                                                                                 | 3                                                                                 | 7                                                                                   | 4                                                                                   | 1                                                                                   | 3                                                                                   | 8                                                                                   | 5                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 8.0                                                                               | 5.0                                                                               | 5.0                                                                               | 8.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 8.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 8.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 9.5                                                                               | 44.9                                                                              | 9.5                                                                               | 9.5                                                                               | 44.9                                                                              | 9.5                                                                               | 9.5                                                                                 | 47.9                                                                                | 9.5                                                                                 | 9.5                                                                                 | 47.9                                                                                | 9.5                                                                                 |
| Total Split (s)        | 24.0                                                                              | 63.6                                                                              | 13.1                                                                              | 10.4                                                                              | 50.0                                                                              | 13.1                                                                              | 13.1                                                                                | 47.9                                                                                | 10.4                                                                                | 13.1                                                                                | 47.9                                                                                | 24.0                                                                                |
| Total Split (%)        | 17.8%                                                                             | 47.1%                                                                             | 9.7%                                                                              | 7.7%                                                                              | 37.0%                                                                             | 9.7%                                                                              | 9.7%                                                                                | 35.5%                                                                               | 7.7%                                                                                | 9.7%                                                                                | 35.5%                                                                               | 17.8%                                                                               |
| Yellow Time (s)        | 3.5                                                                               | 4.6                                                                               | 3.5                                                                               | 3.5                                                                               | 4.6                                                                               | 3.5                                                                               | 3.5                                                                                 | 4.6                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.6                                                                                 | 3.5                                                                                 |
| All-Red Time (s)       | 1.0                                                                               | 2.3                                                                               | 1.0                                                                               | 1.0                                                                               | 2.3                                                                               | 1.0                                                                               | 1.0                                                                                 | 2.3                                                                                 | 1.0                                                                                 | 1.0                                                                                 | 2.3                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)   | -1.0                                                                              | 0.0                                                                               | 0.0                                                                               | -1.0                                                                              | 0.0                                                                               | 0.0                                                                               | -1.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | -1.0                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Lead/Lag               | Lead                                                                              | Lag                                                                               | Lead                                                                              | Lead                                                                              | Lag                                                                               | Lead                                                                              | Lead                                                                                | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 | Lead                                                                                |
| Lead-Lag Optimize?     | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| Recall Mode            | None                                                                              | C-Min                                                                             | None                                                                              | None                                                                              | C-Min                                                                             | None                                                                              | None                                                                                | None                                                                                | None                                                                                | None                                                                                | None                                                                                | None                                                                                |
| v/c Ratio              | 0.64                                                                              | 0.52                                                                              | 0.14                                                                              | 0.29                                                                              | 0.95                                                                              | 0.12                                                                              | 0.86                                                                                | 0.58                                                                                | 0.09                                                                                | 0.71                                                                                | 0.66                                                                                | 0.86                                                                                |
| Control Delay          | 42.2                                                                              | 16.5                                                                              | 0.4                                                                               | 17.8                                                                              | 58.7                                                                              | 6.3                                                                               | 78.3                                                                                | 61.7                                                                                | 1.9                                                                                 | 61.9                                                                                | 64.5                                                                                | 12.1                                                                                |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 42.2                                                                              | 16.5                                                                              | 0.4                                                                               | 17.8                                                                              | 58.7                                                                              | 6.3                                                                               | 78.3                                                                                | 61.7                                                                                | 1.9                                                                                 | 61.9                                                                                | 64.5                                                                                | 12.1                                                                                |
| Queue Length 50th (m)  | 67.4                                                                              | 85.8                                                                              | 0.0                                                                               | 4.9                                                                               | 148.9                                                                             | 6.3                                                                               | 51.4                                                                                | 34.7                                                                                | 0.0                                                                                 | 39.6                                                                                | 39.4                                                                                | 55.7                                                                                |
| Queue Length 95th (m)  | 92.5                                                                              | 110.6                                                                             | 2.3                                                                               | 10.1                                                                              | #181.0                                                                            | 13.3                                                                              | #85.5                                                                               | 47.8                                                                                | 3.8                                                                                 | 60.3                                                                                | 53.2                                                                                | 114.1                                                                               |
| Internal Link Dist (m) |                                                                                   | 980.1                                                                             |                                                                                   |                                                                                   | 272.1                                                                             |                                                                                   |                                                                                     | 844.0                                                                               |                                                                                     |                                                                                     | 481.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 115.0                                                                             |                                                                                   | 75.0                                                                              | 115.0                                                                             |                                                                                   | 110.0                                                                             | 115.0                                                                               |                                                                                     | 65.0                                                                                | 115.0                                                                               |                                                                                     | 135.0                                                                               |
| Base Capacity (vph)    | 874                                                                               | 2873                                                                              | 1264                                                                              | 208                                                                               | 1565                                                                              | 848                                                                               | 243                                                                                 | 1097                                                                                | 702                                                                                 | 233                                                                                 | 1086                                                                                | 1245                                                                                |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.64                                                                              | 0.52                                                                              | 0.14                                                                              | 0.29                                                                              | 0.95                                                                              | 0.12                                                                              | 0.86                                                                                | 0.22                                                                                | 0.09                                                                                | 0.71                                                                                | 0.25                                                                                | 0.86                                                                                |

### Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Dixie Road & Mayfield Road

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  |
| 10.4 s                                                                              | 63.6 s                                                                              |                                                                                     | 13.1 s                                                                              |                                                                                     | 47.9 s                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 24 s                                                                                | 50 s                                                                                |                                                                                     | 13.1 s                                                                              |                                                                                     | 47.9 s                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

# HCM Signalized Intersection Capacity Analysis

## 1: Dixie Road & Mayfield Road

Future Background 2033 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)              | 555                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 105                                                                               | 210                                                                                 | 245                                                                                 | 60                                                                                  | 165                                                                                 | 275                                                                                 | 1065                                                                                |
| Future Volume (vph)               | 555                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 105                                                                               | 210                                                                                 | 245                                                                                 | 60                                                                                  | 165                                                                                 | 275                                                                                 | 1065                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Lane Util. Factor                 | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                | 1.00                                                                                | 1.00                                                                                | 0.99                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 2584                                                                              | 4683                                                                              | 1476                                                                              | 1767                                                                              | 4902                                                                              | 1377                                                                              | 1731                                                                                | 3614                                                                                | 1289                                                                                | 1563                                                                                | 3579                                                                                | 1425                                                                                |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.16                                                                              | 1.00                                                                              | 1.00                                                                              | 0.46                                                                                | 1.00                                                                                | 1.00                                                                                | 0.52                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 2584                                                                              | 4683                                                                              | 1476                                                                              | 303                                                                               | 4902                                                                              | 1377                                                                              | 839                                                                                 | 3614                                                                                | 1289                                                                                | 852                                                                                 | 3579                                                                                | 1425                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 555                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 105                                                                               | 210                                                                                 | 245                                                                                 | 60                                                                                  | 165                                                                                 | 275                                                                                 | 1065                                                                                |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 38                                                                                | 0                                                                                 | 0                                                                                 | 24                                                                                | 0                                                                                   | 0                                                                                   | 31                                                                                  | 0                                                                                   | 0                                                                                   | 67                                                                                  |
| Lane Group Flow (vph)             | 555                                                                               | 1495                                                                              | 142                                                                               | 60                                                                                | 1485                                                                              | 81                                                                                | 210                                                                                 | 245                                                                                 | 29                                                                                  | 165                                                                                 | 275                                                                                 | 998                                                                                 |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   | 10                                                                                | 10                                                                                |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 34%                                                                               | 12%                                                                               | 6%                                                                                | 1%                                                                                | 7%                                                                                | 16%                                                                               | 3%                                                                                  | 1%                                                                                  | 22%                                                                                 | 14%                                                                                 | 2%                                                                                  | 11%                                                                                 |
| Turn Type                         | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                               | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases                  | 5                                                                                 | 2                                                                                 | 7                                                                                 | 1                                                                                 | 6                                                                                 | 3                                                                                 | 7                                                                                   | 4                                                                                   | 1                                                                                   | 3                                                                                   | 8                                                                                   | 5                                                                                   |
| Permitted Phases                  |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                   |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Actuated Green, G (s)             | 44.7                                                                              | 81.9                                                                              | 106.4                                                                             | 48.8                                                                              | 43.0                                                                              | 67.5                                                                              | 24.5                                                                                | 15.8                                                                                | 64.6                                                                                | 24.5                                                                                | 15.8                                                                                | 108.0                                                                               |
| Effective Green, g (s)            | 45.7                                                                              | 81.9                                                                              | 106.4                                                                             | 50.8                                                                              | 43.0                                                                              | 67.5                                                                              | 26.5                                                                                | 15.8                                                                                | 64.6                                                                                | 26.5                                                                                | 15.8                                                                                | 108.0                                                                               |
| Actuated g/C Ratio                | 0.34                                                                              | 0.61                                                                              | 0.79                                                                              | 0.38                                                                              | 0.32                                                                              | 0.50                                                                              | 0.20                                                                                | 0.12                                                                                | 0.48                                                                                | 0.20                                                                                | 0.12                                                                                | 0.80                                                                                |
| Clearance Time (s)                | 4.5                                                                               | 6.9                                                                               | 4.5                                                                               | 4.5                                                                               | 6.9                                                                               | 4.5                                                                               | 4.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 874                                                                               | 2841                                                                              | 1212                                                                              | 187                                                                               | 1561                                                                              | 734                                                                               | 228                                                                                 | 422                                                                                 | 616                                                                                 | 218                                                                                 | 418                                                                                 | 1140                                                                                |
| v/s Ratio Prot                    | 0.21                                                                              | 0.32                                                                              | 0.01                                                                              | 0.02                                                                              | c0.30                                                                             | 0.01                                                                              | c0.07                                                                               | 0.07                                                                                | 0.00                                                                                | 0.05                                                                                | 0.08                                                                                | c0.29                                                                               |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.09                                                                              | 0.10                                                                              |                                                                                   | 0.05                                                                              | c0.11                                                                               |                                                                                     | 0.02                                                                                | 0.09                                                                                |                                                                                     | 0.41                                                                                |
| v/c Ratio                         | 0.64                                                                              | 0.53                                                                              | 0.12                                                                              | 0.32                                                                              | 0.95                                                                              | 0.11                                                                              | 0.92                                                                                | 0.58                                                                                | 0.05                                                                                | 0.76                                                                                | 0.66                                                                                | 0.88                                                                                |
| Uniform Delay, d1                 | 37.6                                                                              | 15.3                                                                              | 3.3                                                                               | 32.7                                                                              | 45.0                                                                              | 17.9                                                                              | 51.5                                                                                | 56.5                                                                                | 18.8                                                                                | 49.5                                                                                | 57.0                                                                                | 9.0                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 1.5                                                                               | 0.7                                                                               | 0.0                                                                               | 1.0                                                                               | 13.8                                                                              | 0.1                                                                               | 38.5                                                                                | 2.0                                                                                 | 0.0                                                                                 | 13.9                                                                                | 3.7                                                                                 | 7.7                                                                                 |
| Delay (s)                         | 39.1                                                                              | 16.0                                                                              | 3.4                                                                               | 33.7                                                                              | 58.8                                                                              | 17.9                                                                              | 90.0                                                                                | 58.5                                                                                | 18.8                                                                                | 63.4                                                                                | 60.7                                                                                | 16.7                                                                                |
| Level of Service                  | D                                                                                 | B                                                                                 | A                                                                                 | C                                                                                 | E                                                                                 | B                                                                                 | F                                                                                   | E                                                                                   | B                                                                                   | E                                                                                   | E                                                                                   | B                                                                                   |
| Approach Delay (s)                |                                                                                   | 20.8                                                                              |                                                                                   |                                                                                   | 55.3                                                                              |                                                                                   |                                                                                     | 66.7                                                                                |                                                                                     |                                                                                     | 29.9                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 36.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.95                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 135.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 119.6%                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Queues

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Future Background 2033 (12489) PM Peak Hour



| Lane Group             | EBL   | EBR   | WBL   | WBT   | NBL   | NBT   | SBL   | SBT   | SBR   |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations    |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)   | 45    | 105   | 70    | 0     | 35    | 820   | 5     | 1320  | 10    |
| Future Volume (vph)    | 45    | 105   | 70    | 0     | 35    | 820   | 5     | 1320  | 10    |
| Lane Group Flow (vph)  | 45    | 105   | 70    | 5     | 35    | 835   | 0     | 1325  | 10    |
| Turn Type              | Perm  | Perm  | Perm  | NA    | Perm  | NA    | Perm  | NA    | Perm  |
| Protected Phases       |       |       |       | 8     |       | 2     |       | 6     |       |
| Permitted Phases       | 4     | 4     | 8     |       | 2     |       | 6     |       | 6     |
| Detector Phase         | 4     | 4     | 8     | 8     | 2     | 2     | 6     | 6     | 6     |
| Switch Phase           |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)      | 39.0  | 39.0  | 39.0  | 39.0  | 31.0  | 31.0  | 31.0  | 31.0  | 31.0  |
| Total Split (s)        | 42.0  | 42.0  | 42.0  | 42.0  | 78.0  | 78.0  | 78.0  | 78.0  | 78.0  |
| Total Split (%)        | 35.0% | 35.0% | 35.0% | 35.0% | 65.0% | 65.0% | 65.0% | 65.0% | 65.0% |
| Yellow Time (s)        | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| All-Red Time (s)       | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   |       | 6.0   | 6.0   |
| Lead/Lag               |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?     |       |       |       |       |       |       |       |       |       |
| Recall Mode            | None  | None  | None  | None  | C-Max | C-Max | C-Max | C-Max | C-Max |
| v/c Ratio              | 0.30  | 0.49  | 0.59  | 0.01  | 0.15  | 0.35  |       | 0.53  | 0.01  |
| Control Delay          | 52.3  | 32.2  | 69.2  | 0.0   | 5.5   | 4.4   |       | 4.0   | 0.8   |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |
| Total Delay            | 52.3  | 32.2  | 69.2  | 0.0   | 5.5   | 4.4   |       | 4.0   | 0.8   |
| Queue Length 50th (m)  | 10.5  | 11.4  | 16.8  | 0.0   | 1.7   | 25.3  |       | 37.0  | 0.0   |
| Queue Length 95th (m)  | 21.4  | 28.0  | 31.3  | 0.0   | 6.0   | 43.2  |       | 62.9  | m0.0  |
| Internal Link Dist (m) |       |       |       | 96.6  |       | 481.5 |       | 358.1 |       |
| Turn Bay Length (m)    | 15.0  | 15.0  | 15.0  |       | 70.0  |       |       |       | 65.0  |
| Base Capacity (vph)    | 425   | 495   | 333   | 617   | 238   | 2399  |       | 2503  | 1230  |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Reduced v/c Ratio      | 0.11  | 0.21  | 0.21  | 0.01  | 0.15  | 0.35  |       | 0.53  | 0.01  |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 80

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

#### Splits and Phases: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3



# HCM Signalized Intersection Capacity Analysis

5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Future Background 2033 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |   |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)              | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 820                                                                                 | 15                                                                                  | 5                                                                                   | 1320                                                                                | 10                                                                                  |
| Future Volume (vph)               | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 820                                                                                 | 15                                                                                  | 5                                                                                   | 1320                                                                                | 10                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.97                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              |                                                                                   | 0.85                                                                              | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              |                                                                                   | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              |                                                                                   | 1521                                                                              | 1394                                                                              | 1633                                                                              |                                                                                   | 1536                                                                                | 3028                                                                                |                                                                                     |                                                                                     | 3319                                                                                | 1546                                                                                |
| Flt Permitted                     | 0.75                                                                              |                                                                                   | 1.00                                                                              | 0.76                                                                              | 1.00                                                                              |                                                                                   | 0.19                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1418                                                                              |                                                                                   | 1521                                                                              | 1111                                                                              | 1633                                                                              |                                                                                   | 300                                                                                 | 3028                                                                                |                                                                                     |                                                                                     | 3161                                                                                | 1546                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 820                                                                                 | 15                                                                                  | 5                                                                                   | 1320                                                                                | 10                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 50                                                                                | 0                                                                                 | 4                                                                                 | 0                                                                                 | 0                                                                                   | 1                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 2                                                                                   |
| Lane Group Flow (vph)             | 45                                                                                | 0                                                                                 | 55                                                                                | 70                                                                                | 1                                                                                 | 0                                                                                 | 35                                                                                  | 834                                                                                 | 0                                                                                   | 0                                                                                   | 1325                                                                                | 8                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 5%                                                                                | 28%                                                                               | 0%                                                                                | 0%                                                                                | 16%                                                                                 | 20%                                                                                 | 33%                                                                                 | 0%                                                                                  | 10%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 12.9                                                                              |                                                                                   | 12.9                                                                              | 12.9                                                                              | 12.9                                                                              |                                                                                   | 95.1                                                                                | 95.1                                                                                |                                                                                     |                                                                                     | 95.1                                                                                | 95.1                                                                                |
| Effective Green, g (s)            | 12.9                                                                              |                                                                                   | 12.9                                                                              | 12.9                                                                              | 12.9                                                                              |                                                                                   | 95.1                                                                                | 95.1                                                                                |                                                                                     |                                                                                     | 95.1                                                                                | 95.1                                                                                |
| Actuated g/C Ratio                | 0.11                                                                              |                                                                                   | 0.11                                                                              | 0.11                                                                              | 0.11                                                                              |                                                                                   | 0.79                                                                                | 0.79                                                                                |                                                                                     |                                                                                     | 0.79                                                                                | 0.79                                                                                |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 152                                                                               |                                                                                   | 163                                                                               | 119                                                                               | 175                                                                               |                                                                                   | 237                                                                                 | 2399                                                                                |                                                                                     |                                                                                     | 2505                                                                                | 1225                                                                                |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                     | 0.28                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    | 0.03                                                                              |                                                                                   | 0.04                                                                              | c0.06                                                                             |                                                                                   |                                                                                   | 0.12                                                                                |                                                                                     |                                                                                     |                                                                                     | c0.42                                                                               | 0.01                                                                                |
| v/c Ratio                         | 0.30                                                                              |                                                                                   | 0.34                                                                              | 0.59                                                                              | 0.00                                                                              |                                                                                   | 0.15                                                                                | 0.35                                                                                |                                                                                     |                                                                                     | 0.53                                                                                | 0.01                                                                                |
| Uniform Delay, d1                 | 49.4                                                                              |                                                                                   | 49.6                                                                              | 51.0                                                                              | 47.8                                                                              |                                                                                   | 2.9                                                                                 | 3.6                                                                                 |                                                                                     |                                                                                     | 4.4                                                                                 | 2.6                                                                                 |
| Progression Factor                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.71                                                                                | 2.33                                                                                |
| Incremental Delay, d2             | 1.1                                                                               |                                                                                   | 1.2                                                                               | 7.2                                                                               | 0.0                                                                               |                                                                                   | 1.3                                                                                 | 0.4                                                                                 |                                                                                     |                                                                                     | 0.4                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 50.5                                                                              |                                                                                   | 50.8                                                                              | 58.3                                                                              | 47.8                                                                              |                                                                                   | 4.2                                                                                 | 4.0                                                                                 |                                                                                     |                                                                                     | 3.6                                                                                 | 6.0                                                                                 |
| Level of Service                  | D                                                                                 |                                                                                   | D                                                                                 | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 50.7                                                                              |                                                                                   |                                                                                   | 57.6                                                                              |                                                                                   |                                                                                     | 4.0                                                                                 |                                                                                     |                                                                                     | 3.6                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 8.3                                                                               |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.54                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 63.1%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



## Queues

### 7: Dixie Road & UPS Facility Access/12173 West Access 1 Future Background 2033 (12489) PM Peak Hour



| Lane Group             | EBL   | WBR   | NBL   | NBT   | SBT    |
|------------------------|-------|-------|-------|-------|--------|
| Lane Configurations    |       |       |       |       |        |
| Traffic Volume (vph)   | 5     | 10    | 35    | 805   | 1355   |
| Future Volume (vph)    | 5     | 10    | 35    | 805   | 1355   |
| Lane Group Flow (vph)  | 5     | 10    | 35    | 810   | 1375   |
| Turn Type              | Perm  | Perm  | Perm  | NA    | NA     |
| Protected Phases       |       |       |       | 2     | 6      |
| Permitted Phases       | 4     | 8     | 2     |       |        |
| Detector Phase         | 4     | 8     | 2     | 2     | 6      |
| Switch Phase           |       |       |       |       |        |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0    |
| Minimum Split (s)      | 39.0  | 39.0  | 31.0  | 31.0  | 31.0   |
| Total Split (s)        | 39.0  | 39.0  | 81.0  | 81.0  | 81.0   |
| Total Split (%)        | 32.5% | 32.5% | 67.5% | 67.5% | 67.5%  |
| Yellow Time (s)        | 3.0   | 3.0   | 3.0   | 3.0   | 3.0    |
| All-Red Time (s)       | 3.0   | 3.0   | 3.0   | 3.0   | 3.0    |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    |
| Total Lost Time (s)    | 6.0   | 6.0   | 6.0   | 6.0   | 6.0    |
| Lead/Lag               |       |       |       |       |        |
| Lead-Lag Optimize?     |       |       |       |       |        |
| Recall Mode            | None  | None  | C-Max | C-Max | C-Max  |
| v/c Ratio              | 0.06  | 0.04  | 0.14  | 0.28  | 0.82   |
| Control Delay          | 55.4  | 0.3   | 2.0   | 0.7   | 9.8    |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    |
| Total Delay            | 55.4  | 0.3   | 2.0   | 0.7   | 9.8    |
| Queue Length 50th (m)  | 1.2   | 0.0   | 0.0   | 0.0   | 7.0    |
| Queue Length 95th (m)  | 5.6   | 0.0   | 3.0   | 19.7  | #413.4 |
| Internal Link Dist (m) |       |       |       | 358.1 | 696.2  |
| Turn Bay Length (m)    |       |       |       |       |        |
| Base Capacity (vph)    | 490   | 582   | 244   | 2860  | 1683   |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0      |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0      |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0      |
| Reduced v/c Ratio      | 0.01  | 0.02  | 0.14  | 0.28  | 0.82   |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

#### Splits and Phases: 7: Dixie Road & UPS Facility Access/12173 West Access 1



# HCM Signalized Intersection Capacity Analysis

7: Dixie Road & UPS Facility Access/12173 West Access 1 Future Background 2033 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)              | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 805                                                                                 | 5                                                                                   | 0                                                                                   | 1355                                                                                | 20                                                                                  |
| Future Volume (vph)               | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 805                                                                                 | 5                                                                                   | 0                                                                                   | 1355                                                                                | 20                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                               | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flt Protected                     | 0.95                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (prot)                 | 1785                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1597                                                                              | 1750                                                                                | 2953                                                                                |                                                                                     |                                                                                     | 1737                                                                                |                                                                                     |
| Flt Permitted                     | 0.95                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 0.14                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (perm)                 | 1785                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1597                                                                              | 252                                                                                 | 2953                                                                                |                                                                                     |                                                                                     | 1737                                                                                |                                                                                     |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 805                                                                                 | 5                                                                                   | 0                                                                                   | 1355                                                                                | 20                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 35                                                                                  | 810                                                                                 | 0                                                                                   | 0                                                                                   | 1375                                                                                | 0                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 10                                                                                  |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 10                                                                                  |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 2%                                                                                  | 23%                                                                                 | 100%                                                                                | 0%                                                                                  | 8%                                                                                  | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     |                                                                                     | NA                                                                                  |                                                                                     |
| Protected Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 1.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.4                                                                               | 106.6                                                                               | 106.6                                                                               |                                                                                     |                                                                                     | 106.6                                                                               |                                                                                     |
| Effective Green, g (s)            | 1.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.4                                                                               | 106.6                                                                               | 106.6                                                                               |                                                                                     |                                                                                     | 106.6                                                                               |                                                                                     |
| Actuated g/C Ratio                | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.01                                                                              | 0.89                                                                                | 0.89                                                                                |                                                                                     |                                                                                     | 0.89                                                                                |                                                                                     |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 20                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 18                                                                                | 223                                                                                 | 2623                                                                                |                                                                                     |                                                                                     | 1543                                                                                |                                                                                     |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.27                                                                                |                                                                                     |                                                                                     | c0.79                                                                               |                                                                                     |
| v/s Ratio Perm                    | c0.00                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              | 0.14                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/c Ratio                         | 0.25                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.01                                                                              | 0.16                                                                                | 0.31                                                                                |                                                                                     |                                                                                     | 0.89                                                                                |                                                                                     |
| Uniform Delay, d1                 | 58.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 58.6                                                                              | 0.9                                                                                 | 1.0                                                                                 |                                                                                     |                                                                                     | 3.6                                                                                 |                                                                                     |
| Progression Factor                | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 0.94                                                                                | 0.91                                                                                |                                                                                     |                                                                                     | 2.59                                                                                |                                                                                     |
| Incremental Delay, d2             | 6.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.1                                                                               | 1.4                                                                                 | 0.3                                                                                 |                                                                                     |                                                                                     | 5.7                                                                                 |                                                                                     |
| Delay (s)                         | 65.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 58.8                                                                              | 2.3                                                                                 | 1.2                                                                                 |                                                                                     |                                                                                     | 15.0                                                                                |                                                                                     |
| Level of Service                  | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | E                                                                                 | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Approach Delay (s)                |                                                                                   | 65.3                                                                              |                                                                                   |                                                                                   | 58.8                                                                              |                                                                                   |                                                                                     | 1.3                                                                                 |                                                                                     |                                                                                     | 15.0                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 10.1                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.88                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 84.2%                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Dixie Road & 12489 Site Access 1

Future Background 2033 (12489) PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 0                                                                                 | 810                                                                               | 0                                                                                 | 0                                                                                 | 1280                                                                              |
| Future Volume (Veh/h)             | 0                                                                                 | 0                                                                                 | 810                                                                               | 0                                                                                 | 0                                                                                 | 1280                                                                              |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 0                                                                                 | 810                                                                               | 0                                                                                 | 0                                                                                 | 1280                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 394                                                                               |
| pX, platoon unblocked             | 0.21                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 2090                                                                              | 810                                                                               |                                                                                   |                                                                                   | 810                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 4301                                                                              | 810                                                                               |                                                                                   |                                                                                   | 810                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 100                                                                               |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 0                                                                                 | 383                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 0                                                                                 | 810                                                                               | 0                                                                                 | 1280                                                                              |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 825                                                                               |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.00                                                                              | 0.48                                                                              | 0.01                                                                              | 0.00                                                                              |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 70.7%                                                                             |                                                                                   | ICU Level of Service                                                              | C                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Future Background 2033 (12489) PM Peak Hour



| Lane Group             | EBL   | EBT   | NBL   | NBT   | SBT   | SBR   | Ø8   |
|------------------------|-------|-------|-------|-------|-------|-------|------|
| Lane Configurations    |       |       |       |       |       |       |      |
| Traffic Volume (vph)   | 35    | 0     | 20    | 790   | 1230  | 5     |      |
| Future Volume (vph)    | 35    | 0     | 20    | 790   | 1230  | 5     |      |
| Lane Group Flow (vph)  | 35    | 55    | 20    | 790   | 1230  | 5     |      |
| Turn Type              | Perm  | NA    | Perm  | NA    | NA    | Perm  |      |
| Protected Phases       |       | 4     |       | 2     | 6     |       | 8    |
| Permitted Phases       | 4     |       | 2     |       |       | 6     |      |
| Detector Phase         | 4     | 4     | 2     | 2     | 6     | 6     |      |
| Switch Phase           |       |       |       |       |       |       |      |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0  |
| Minimum Split (s)      | 39.0  | 39.0  | 31.5  | 31.5  | 31.5  | 31.5  | 39.0 |
| Total Split (s)        | 39.0  | 39.0  | 81.0  | 81.0  | 81.0  | 81.0  | 39.0 |
| Total Split (%)        | 32.5% | 32.5% | 67.5% | 67.5% | 67.5% | 67.5% | 33%  |
| Yellow Time (s)        | 4.0   | 4.0   | 4.5   | 4.5   | 4.5   | 4.5   | 4.0  |
| All-Red Time (s)       | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0  |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Lost Time (s)    | 6.0   | 6.0   | 6.5   | 6.5   | 6.5   | 6.5   |      |
| Lead/Lag               |       |       |       |       |       |       |      |
| Lead-Lag Optimize?     |       |       |       |       |       |       |      |
| Recall Mode            | None  | None  | C-Max | C-Max | C-Max | C-Max | None |
| v/c Ratio              | 0.35  | 0.29  | 0.08  | 0.59  | 0.81  | 0.00  |      |
| Control Delay          | 61.7  | 9.2   | 2.4   | 8.2   | 15.2  | 0.4   |      |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |      |
| Total Delay            | 61.7  | 9.2   | 2.4   | 8.2   | 15.2  | 0.4   |      |
| Queue Length 50th (m)  | 8.4   | 0.0   | 0.9   | 93.3  | 162.9 | 0.0   |      |
| Queue Length 95th (m)  | 19.0  | 7.4   | 1.5   | 152.6 | 343.5 | m0.2  |      |
| Internal Link Dist (m) |       | 161.0 |       | 369.7 | 813.5 |       |      |
| Turn Bay Length (m)    | 20.0  |       | 60.0  |       |       | 60.0  |      |
| Base Capacity (vph)    | 391   | 505   | 247   | 1347  | 1521  | 1369  |      |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0     | 0     |      |
| Reduced v/c Ratio      | 0.09  | 0.11  | 0.08  | 0.59  | 0.81  | 0.00  |      |

## Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

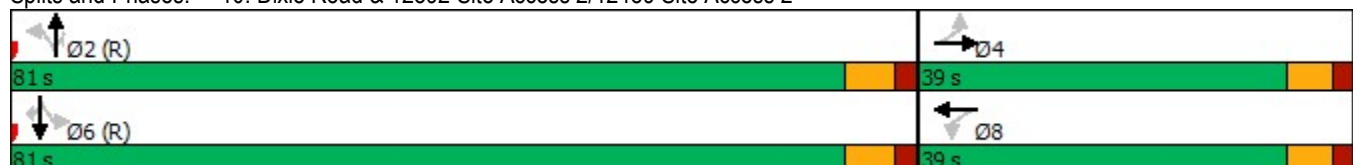
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2



# HCM Signalized Intersection Capacity Analysis

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Future Background 2033 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 35                                                                                | 0                                                                                 | 55                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 20                                                                                  | 790                                                                                 | 0                                                                                   | 0                                                                                   | 1230                                                                                | 5                                                                                   |
| Future Volume (vph)               | 35                                                                                | 0                                                                                 | 55                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 20                                                                                  | 790                                                                                 | 0                                                                                   | 0                                                                                   | 1230                                                                                | 5                                                                                   |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.0                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 0.85                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              | 1633                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1785                                                                                | 1575                                                                                |                                                                                     |                                                                                     | 1779                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.76                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.15                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1423                                                                              | 1633                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 289                                                                                 | 1575                                                                                |                                                                                     |                                                                                     | 1779                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 35                                                                                | 0                                                                                 | 55                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 20                                                                                  | 790                                                                                 | 0                                                                                   | 0                                                                                   | 1230                                                                                | 5                                                                                   |
| RTOR Reduction (vph)              | 0                                                                                 | 52                                                                                | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 1                                                                                   |
| Lane Group Flow (vph)             | 35                                                                                | 3                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 20                                                                                  | 790                                                                                 | 0                                                                                   | 0                                                                                   | 1230                                                                                | 4                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                  | 22%                                                                                 | 0%                                                                                  | 0%                                                                                  | 8%                                                                                  | 0%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              |                                                                                   |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 7.4                                                                               | 7.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 100.1                                                                               | 100.1                                                                               |                                                                                     |                                                                                     | 100.1                                                                               | 100.1                                                                               |
| Effective Green, g (s)            | 7.4                                                                               | 7.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 100.1                                                                               | 100.1                                                                               |                                                                                     |                                                                                     | 100.1                                                                               | 100.1                                                                               |
| Actuated g/C Ratio                | 0.06                                                                              | 0.06                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.83                                                                                | 0.83                                                                                |                                                                                     |                                                                                     | 0.83                                                                                | 0.83                                                                                |
| Clearance Time (s)                | 6.0                                                                               | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.5                                                                                 | 6.5                                                                                 |                                                                                     |                                                                                     | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 87                                                                                | 100                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 241                                                                                 | 1313                                                                                |                                                                                     |                                                                                     | 1483                                                                                | 1332                                                                                |
| v/s Ratio Prot                    |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.50                                                                                |                                                                                     |                                                                                     | c0.69                                                                               |                                                                                     |
| v/s Ratio Perm                    | c0.02                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.07                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 0.00                                                                                |
| v/c Ratio                         | 0.40                                                                              | 0.03                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.08                                                                                | 0.60                                                                                |                                                                                     |                                                                                     | 0.83                                                                                | 0.00                                                                                |
| Uniform Delay, d1                 | 54.2                                                                              | 52.9                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.8                                                                                 | 3.3                                                                                 |                                                                                     |                                                                                     | 5.4                                                                                 | 1.7                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.70                                                                                | 1.62                                                                                |                                                                                     |                                                                                     | 1.52                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 3.0                                                                               | 0.1                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.7                                                                                 | 2.0                                                                                 |                                                                                     |                                                                                     | 5.5                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 57.2                                                                              | 53.1                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.9                                                                                 | 7.4                                                                                 |                                                                                     |                                                                                     | 13.6                                                                                | 1.7                                                                                 |
| Level of Service                  | E                                                                                 | D                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 54.7                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                     | 7.2                                                                                 |                                                                                     |                                                                                     | 13.6                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 12.9                                                                              |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.80                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.5                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 79.3%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 11: Dixie Road & 12861 Site Access 1

Future Background 2033 (12489) PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |                                                                                   |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 45                                                                                | 775                                                                               | 50                                                                                | 0                                                                                 | 1235                                                                              |
| Future Volume (Veh/h)             | 0                                                                                 | 45                                                                                | 775                                                                               | 50                                                                                | 0                                                                                 | 1235                                                                              |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 45                                                                                | 775                                                                               | 50                                                                                | 0                                                                                 | 1235                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 240                                                                               |
| pX, platoon unblocked             | 0.83                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 2035                                                                              | 800                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 2145                                                                              | 800                                                                               |                                                                                   |                                                                                   | 825                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 88                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 45                                                                                | 388                                                                               |                                                                                   |                                                                                   | 814                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 45                                                                                | 825                                                                               | 1235                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 45                                                                                | 50                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 388                                                                               | 1700                                                                              | 1700                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.12                                                                              | 0.49                                                                              | 0.73                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 3.1                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 15.5                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 15.5                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.3                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 68.3%                                                                             | ICU Level of Service                                                              |                                                                                   | C                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

### 12: Dixie Road & Old School Road

Future Background 2033 (12489) PM Peak Hour

|                        |  |  |  |  |  |  |   |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 130                                                                               | 160                                                                               | 105                                                                               | 190                                                                               | 385                                                                               | 90                                                                                | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| Future Volume (vph)    | 130                                                                               | 160                                                                               | 105                                                                               | 190                                                                               | 385                                                                               | 90                                                                                | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| Lane Group Flow (vph)  | 130                                                                               | 160                                                                               | 105                                                                               | 190                                                                               | 400                                                                               | 90                                                                                | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| Turn Type              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       | 7                                                                                 | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 7                                                                                 | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 9.5                                                                               | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                |
| Total Split (s)        | 13.7                                                                              | 58.7                                                                              | 58.7                                                                              | 45.0                                                                              | 45.0                                                                              | 61.3                                                                              | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                |
| Total Split (%)        | 11.4%                                                                             | 48.9%                                                                             | 48.9%                                                                             | 37.5%                                                                             | 37.5%                                                                             | 51.1%                                                                             | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               |
| Yellow Time (s)        | 3.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 1.0                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               | Lead                                                                              |                                                                                   |                                                                                   | Lag                                                                               | Lag                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.53                                                                              | 0.23                                                                              | 0.16                                                                              | 0.60                                                                              | 0.83                                                                              | 0.31                                                                              | 0.54                                                                                | 0.11                                                                                | 0.06                                                                                | 0.35                                                                                | 0.08                                                                                |
| Control Delay          | 31.0                                                                              | 25.8                                                                              | 4.5                                                                               | 34.5                                                                              | 44.2                                                                              | 32.9                                                                              | 34.2                                                                                | 15.1                                                                                | 17.6                                                                                | 19.3                                                                                | 4.2                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 31.0                                                                              | 25.8                                                                              | 4.5                                                                               | 34.5                                                                              | 44.2                                                                              | 32.9                                                                              | 34.2                                                                                | 15.1                                                                                | 17.6                                                                                | 19.3                                                                                | 4.2                                                                                 |
| Queue Length 50th (m)  | 20.9                                                                              | 27.0                                                                              | 0.0                                                                               | 49.0                                                                              | 104.0                                                                             | 17.8                                                                              | 122.8                                                                               | 8.1                                                                                 | 2.4                                                                                 | 44.8                                                                                | 0.0                                                                                 |
| Queue Length 95th (m)  | 31.4                                                                              | 39.1                                                                              | 10.4                                                                              | 72.5                                                                              | 135.6                                                                             | m35.2                                                                             | 170.8                                                                               | m22.1                                                                               | 7.8                                                                                 | 75.6                                                                                | 7.7                                                                                 |
| Internal Link Dist (m) |                                                                                   | 371.4                                                                             |                                                                                   |                                                                                   | 41.8                                                                              |                                                                                   | 216.1                                                                               |                                                                                     |                                                                                     | 261.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 75.0                                                                              |                                                                                   | 75.0                                                                              | 65.0                                                                              |                                                                                   | 75.0                                                                              |                                                                                     | 50.0                                                                                | 75.0                                                                                |                                                                                     | 75.0                                                                                |
| Base Capacity (vph)    | 246                                                                               | 811                                                                               | 747                                                                               | 395                                                                               | 606                                                                               | 294                                                                               | 996                                                                                 | 830                                                                                 | 315                                                                                 | 922                                                                                 | 853                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.53                                                                              | 0.20                                                                              | 0.14                                                                              | 0.48                                                                              | 0.66                                                                              | 0.31                                                                              | 0.54                                                                                | 0.11                                                                                | 0.06                                                                                | 0.35                                                                                | 0.08                                                                                |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

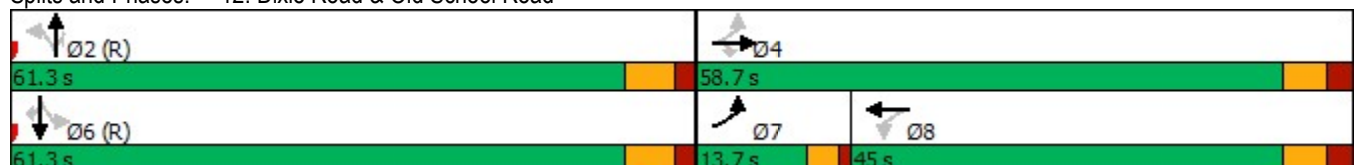
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Dixie Road & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 12: Dixie Road & Old School Road

Future Background 2033 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 130                                                                               | 160                                                                               | 105                                                                               | 190                                                                               | 385                                                                               | 15                                                                                | 90                                                                                  | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| Future Volume (vph)               | 130                                                                               | 160                                                                               | 105                                                                               | 190                                                                               | 385                                                                               | 15                                                                                | 90                                                                                  | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              | 1865                                                                              | 1581                                                                              | 1785                                                                              | 1887                                                                              |                                                                                   | 1038                                                                                | 1902                                                                                | 1521                                                                                | 1733                                                                                | 1762                                                                                | 1566                                                                                |
| Flt Permitted                     | 0.18                                                                              | 1.00                                                                              | 1.00                                                                              | 0.66                                                                              | 1.00                                                                              |                                                                                   | 0.51                                                                                | 1.00                                                                                | 1.00                                                                                | 0.33                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 333                                                                               | 1865                                                                              | 1581                                                                              | 1232                                                                              | 1887                                                                              |                                                                                   | 561                                                                                 | 1902                                                                                | 1521                                                                                | 602                                                                                 | 1762                                                                                | 1566                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 130                                                                               | 160                                                                               | 105                                                                               | 190                                                                               | 385                                                                               | 15                                                                                | 90                                                                                  | 540                                                                                 | 95                                                                                  | 20                                                                                  | 320                                                                                 | 65                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 66                                                                                | 0                                                                                 | 1                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 33                                                                                  | 0                                                                                   | 0                                                                                   | 31                                                                                  |
| Lane Group Flow (vph)             | 130                                                                               | 160                                                                               | 39                                                                                | 190                                                                               | 399                                                                               | 0                                                                                 | 90                                                                                  | 540                                                                                 | 62                                                                                  | 20                                                                                  | 320                                                                                 | 34                                                                                  |
| Heavy Vehicles (%)                | 0%                                                                                | 3%                                                                                | 1%                                                                                | 0%                                                                                | 1%                                                                                | 7%                                                                                | 72%                                                                                 | 1%                                                                                  | 5%                                                                                  | 3%                                                                                  | 9%                                                                                  | 2%                                                                                  |
| Turn Type                         | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  | 7                                                                                 | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 44.2                                                                              | 44.2                                                                              | 44.2                                                                              | 30.7                                                                              | 30.7                                                                              |                                                                                   | 62.8                                                                                | 62.8                                                                                | 62.8                                                                                | 62.8                                                                                | 62.8                                                                                | 62.8                                                                                |
| Effective Green, g (s)            | 44.2                                                                              | 44.2                                                                              | 44.2                                                                              | 30.7                                                                              | 30.7                                                                              |                                                                                   | 62.8                                                                                | 62.8                                                                                | 62.8                                                                                | 62.8                                                                                | 62.8                                                                                | 62.8                                                                                |
| Actuated g/C Ratio                | 0.37                                                                              | 0.37                                                                              | 0.37                                                                              | 0.26                                                                              | 0.26                                                                              |                                                                                   | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                | 0.52                                                                                |
| Clearance Time (s)                | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 237                                                                               | 686                                                                               | 582                                                                               | 315                                                                               | 482                                                                               |                                                                                   | 293                                                                                 | 995                                                                                 | 795                                                                                 | 315                                                                                 | 922                                                                                 | 819                                                                                 |
| v/s Ratio Prot                    | c0.04                                                                             | 0.09                                                                              |                                                                                   |                                                                                   | c0.21                                                                             |                                                                                   |                                                                                     | c0.28                                                                               |                                                                                     |                                                                                     | 0.18                                                                                |                                                                                     |
| v/s Ratio Perm                    | 0.16                                                                              |                                                                                   | 0.02                                                                              | 0.15                                                                              |                                                                                   |                                                                                   | 0.16                                                                                |                                                                                     | 0.04                                                                                | 0.03                                                                                |                                                                                     | 0.02                                                                                |
| v/c Ratio                         | 0.55                                                                              | 0.23                                                                              | 0.07                                                                              | 0.60                                                                              | 0.83                                                                              |                                                                                   | 0.31                                                                                | 0.54                                                                                | 0.08                                                                                | 0.06                                                                                | 0.35                                                                                | 0.04                                                                                |
| Uniform Delay, d1                 | 28.4                                                                              | 26.2                                                                              | 24.5                                                                              | 39.3                                                                              | 42.1                                                                              |                                                                                   | 16.2                                                                                | 19.0                                                                                | 14.2                                                                                | 14.1                                                                                | 16.7                                                                                | 13.9                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.68                                                                              | 0.71                                                                              |                                                                                   | 1.57                                                                                | 1.56                                                                                | 2.36                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 2.6                                                                               | 0.2                                                                               | 0.0                                                                               | 3.2                                                                               | 10.9                                                                              |                                                                                   | 2.3                                                                                 | 1.8                                                                                 | 0.2                                                                                 | 0.4                                                                                 | 1.0                                                                                 | 0.1                                                                                 |
| Delay (s)                         | 30.9                                                                              | 26.4                                                                              | 24.6                                                                              | 30.1                                                                              | 40.9                                                                              |                                                                                   | 27.8                                                                                | 31.4                                                                                | 33.7                                                                                | 14.5                                                                                | 17.7                                                                                | 14.0                                                                                |
| Level of Service                  | C                                                                                 | C                                                                                 | C                                                                                 | C                                                                                 | D                                                                                 |                                                                                   | C                                                                                   | C                                                                                   | C                                                                                   | B                                                                                   | B                                                                                   | B                                                                                   |
| Approach Delay (s)                |                                                                                   | 27.4                                                                              |                                                                                   |                                                                                   | 37.4                                                                              |                                                                                   |                                                                                     | 31.3                                                                                |                                                                                     |                                                                                     | 16.9                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 29.5                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.63                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 17.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 80.5%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# HCM Unsignalized Intersection Capacity Analysis

## 13: 12861 Site Access 2 & Old School Road

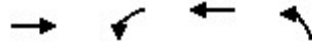
Future Background 2033 (12489) PM Peak Hour

|                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   |                                                                                    |  |  |                                                                                    |  |                                                                                    |
| Movement                          | EBT                                                                                                                                                                 | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                 | NBL                                                                               | NBR                                                                                                                                                                 |
| Lane Configurations               |   |                                                                                   |                                                                                   |   |                                                                                   |   |
| Traffic Volume (veh/h)            | 255                                                                                                                                                                 | 15                                                                                | 0                                                                                 | 585                                                                                                                                                                 | 0                                                                                 | 10                                                                                                                                                                  |
| Future Volume (Veh/h)             | 255                                                                                                                                                                 | 15                                                                                | 0                                                                                 | 585                                                                                                                                                                 | 0                                                                                 | 10                                                                                                                                                                  |
| Sign Control                      | Free                                                                                                                                                                |                                                                                   |                                                                                   | Free                                                                                                                                                                | Stop                                                                              |                                                                                                                                                                     |
| Grade                             | 0%                                                                                                                                                                  |                                                                                   |                                                                                   | 0%                                                                                                                                                                  | 0%                                                                                |                                                                                                                                                                     |
| Peak Hour Factor                  | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                                                                                                                |
| Hourly flow rate (vph)            | 255                                                                                                                                                                 | 15                                                                                | 0                                                                                 | 585                                                                                                                                                                 | 0                                                                                 | 10                                                                                                                                                                  |
| Pedestrians                       |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Lane Width (m)                    |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Walking Speed (m/s)               |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Percent Blockage                  |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Right turn flare (veh)            |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Median type                       | None                                                                                                                                                                |                                                                                   |                                                                                   | None                                                                                                                                                                |                                                                                   |                                                                                                                                                                     |
| Median storage veh                |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Upstream signal (m)               | 66                                                                                                                                                                  |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| pX, platoon unblocked             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| vC, conflicting volume            |                                                                                                                                                                     |                                                                                   | 270                                                                               |                                                                                                                                                                     | 555                                                                               | 135                                                                                                                                                                 |
| vC1, stage 1 conf vol             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| vC2, stage 2 conf vol             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| vCu, unblocked vol                |                                                                                                                                                                     |                                                                                   | 270                                                                               |                                                                                                                                                                     | 555                                                                               | 135                                                                                                                                                                 |
| tC, single (s)                    |                                                                                                                                                                     |                                                                                   | 4.1                                                                               |                                                                                                                                                                     | 6.8                                                                               | 6.9                                                                                                                                                                 |
| tC, 2 stage (s)                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| tF (s)                            |                                                                                                                                                                     |                                                                                   | 2.2                                                                               |                                                                                                                                                                     | 3.5                                                                               | 3.3                                                                                                                                                                 |
| p0 queue free %                   |                                                                                                                                                                     |                                                                                   | 100                                                                               |                                                                                                                                                                     | 100                                                                               | 99                                                                                                                                                                  |
| cM capacity (veh/h)               |                                                                                                                                                                     |                                                                                   | 1305                                                                              |                                                                                                                                                                     | 467                                                                               | 895                                                                                                                                                                 |
| Direction, Lane #                 | EB 1                                                                                                                                                                | EB 2                                                                              | WB 1                                                                              | WB 2                                                                                                                                                                | NB 1                                                                              |                                                                                                                                                                     |
| Volume Total                      | 170                                                                                                                                                                 | 100                                                                               | 292                                                                               | 292                                                                                                                                                                 | 10                                                                                |                                                                                                                                                                     |
| Volume Left                       | 0                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                 |                                                                                                                                                                     |
| Volume Right                      | 0                                                                                                                                                                   | 15                                                                                | 0                                                                                 | 0                                                                                                                                                                   | 10                                                                                |                                                                                                                                                                     |
| cSH                               | 1700                                                                                                                                                                | 1700                                                                              | 1700                                                                              | 1700                                                                                                                                                                | 895                                                                               |                                                                                                                                                                     |
| Volume to Capacity                | 0.10                                                                                                                                                                | 0.06                                                                              | 0.17                                                                              | 0.17                                                                                                                                                                | 0.01                                                                              |                                                                                                                                                                     |
| Queue Length 95th (m)             | 0.0                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                 | 0.3                                                                               |                                                                                                                                                                     |
| Control Delay (s)                 | 0.0                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                 | 9.1                                                                               |                                                                                                                                                                     |
| Lane LOS                          |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     | A                                                                                 |                                                                                                                                                                     |
| Approach Delay (s)                | 0.0                                                                                                                                                                 |                                                                                   | 0.0                                                                               |                                                                                                                                                                     | 9.1                                                                               |                                                                                                                                                                     |
| Approach LOS                      |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     | A                                                                                 |                                                                                                                                                                     |
| Intersection Summary              |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Average Delay                     |                                                                                                                                                                     |                                                                                   | 0.1                                                                               |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Intersection Capacity Utilization |                                                                                                                                                                     |                                                                                   | 19.5%                                                                             |                                                                                                                                                                     | ICU Level of Service                                                              |                                                                                                                                                                     |
|                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     | A                                                                                 |                                                                                                                                                                     |
| Analysis Period (min)             |                                                                                                                                                                     |                                                                                   | 15                                                                                |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |

## Queues

### 14: 12861 Site Access 3 & Old School Road

Future Background 2033 (12489) PM Peak Hour



| Lane Group             | EBT   | WBL   | WBT   | NBL   |
|------------------------|-------|-------|-------|-------|
| Lane Configurations    | ↑↑    | ↑     | ↑↑    | ↑     |
| Traffic Volume (vph)   | 265   | 10    | 455   | 130   |
| Future Volume (vph)    | 265   | 10    | 455   | 130   |
| Lane Group Flow (vph)  | 265   | 10    | 455   | 150   |
| Turn Type              | NA    | Perm  | NA    | Prot  |
| Protected Phases       | 4     |       | 8     | 2     |
| Permitted Phases       |       | 8     |       |       |
| Detector Phase         | 4     | 8     | 8     | 2     |
| Switch Phase           |       |       |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)      | 28.5  | 31.5  | 31.5  | 31.5  |
| Total Split (s)        | 60.0  | 60.0  | 60.0  | 60.0  |
| Total Split (%)        | 50.0% | 50.0% | 50.0% | 50.0% |
| Yellow Time (s)        | 4.5   | 4.5   | 4.5   | 4.0   |
| All-Red Time (s)       | 2.0   | 2.0   | 2.0   | 2.5   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5   | 6.5   |
| Lead/Lag               |       |       |       |       |
| Lead-Lag Optimize?     |       |       |       |       |
| Recall Mode            | None  | None  | None  | C-Min |
| v/c Ratio              | 0.42  | 0.06  | 0.72  | 0.12  |
| Control Delay          | 33.3  | 39.9  | 53.4  | 5.7   |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay            | 33.3  | 39.9  | 53.4  | 5.7   |
| Queue Length 50th (m)  | 28.8  | 2.1   | 56.7  | 9.5   |
| Queue Length 95th (m)  | 38.6  | 6.9   | 71.3  | 19.0  |
| Internal Link Dist (m) | 433.3 |       | 157.0 | 183.7 |
| Turn Bay Length (m)    |       | 95.0  |       |       |
| Base Capacity (vph)    | 1627  | 448   | 1627  | 1272  |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     |
| Reduced v/c Ratio      | 0.16  | 0.02  | 0.28  | 0.12  |

#### Intersection Summary

Cycle Length: 120

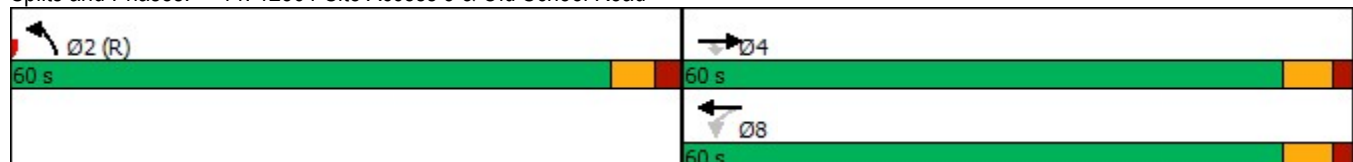
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 14: 12861 Site Access 3 & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 14: 12861 Site Access 3 & Old School Road

Future Background 2033 (12489) PM Peak Hour

|                                   | →    | ↘    | ↙     | ←     | ↖                         | ↗    |
|-----------------------------------|------|------|-------|-------|---------------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT   | NBL                       | NBR  |
| Lane Configurations               | ↑↑   | ↑    | ↓     | ↑↑    | ↓                         |      |
| Traffic Volume (vph)              | 265  | 0    | 10    | 455   | 130                       | 20   |
| Future Volume (vph)               | 265  | 0    | 10    | 455   | 130                       | 20   |
| Ideal Flow (vphpl)                | 1900 | 1900 | 1900  | 1900  | 1900                      | 1900 |
| Lane Width                        | 3.7  | 3.5  | 3.5   | 3.7   | 3.5                       | 3.5  |
| Total Lost time (s)               | 6.5  |      | 6.5   | 6.5   | 6.5                       |      |
| Lane Util. Factor                 | 0.95 |      | 1.00  | 0.95  | 1.00                      |      |
| Frt                               | 1.00 |      | 1.00  | 1.00  | 0.98                      |      |
| Flt Protected                     | 1.00 |      | 0.95  | 1.00  | 0.96                      |      |
| Satd. Flow (prot)                 | 3650 |      | 1785  | 3650  | 1768                      |      |
| Flt Permitted                     | 1.00 |      | 0.54  | 1.00  | 0.96                      |      |
| Satd. Flow (perm)                 | 3650 |      | 1008  | 3650  | 1768                      |      |
| Peak-hour factor, PHF             | 1.00 | 1.00 | 1.00  | 1.00  | 1.00                      | 1.00 |
| Adj. Flow (vph)                   | 265  | 0    | 10    | 455   | 130                       | 20   |
| RTOR Reduction (vph)              | 0    | 0    | 0     | 0     | 2                         | 0    |
| Lane Group Flow (vph)             | 265  | 0    | 10    | 455   | 148                       | 0    |
| Heavy Vehicles (%)                | 0%   | 0%   | 0%    | 0%    | 0%                        | 0%   |
| Turn Type                         | NA   | Perm | Perm  | NA    | Prot                      |      |
| Protected Phases                  | 4    |      |       | 8     | 2                         |      |
| Permitted Phases                  |      | 4    | 8     |       |                           |      |
| Actuated Green, G (s)             | 20.8 |      | 20.8  | 20.8  | 86.2                      |      |
| Effective Green, g (s)            | 20.8 |      | 20.8  | 20.8  | 86.2                      |      |
| Actuated g/C Ratio                | 0.17 |      | 0.17  | 0.17  | 0.72                      |      |
| Clearance Time (s)                | 6.5  |      | 6.5   | 6.5   | 6.5                       |      |
| Vehicle Extension (s)             | 3.0  |      | 3.0   | 3.0   | 3.0                       |      |
| Lane Grp Cap (vph)                | 632  |      | 174   | 632   | 1270                      |      |
| v/s Ratio Prot                    | 0.07 |      |       | c0.12 | c0.08                     |      |
| v/s Ratio Perm                    |      |      | 0.01  |       |                           |      |
| v/c Ratio                         | 0.42 |      | 0.06  | 0.72  | 0.12                      |      |
| Uniform Delay, d1                 | 44.2 |      | 41.4  | 46.8  | 5.2                       |      |
| Progression Factor                | 0.72 |      | 1.00  | 1.00  | 1.00                      |      |
| Incremental Delay, d2             | 0.4  |      | 0.1   | 3.9   | 0.2                       |      |
| Delay (s)                         | 32.1 |      | 41.6  | 50.8  | 5.4                       |      |
| Level of Service                  | C    |      | D     | D     | A                         |      |
| Approach Delay (s)                | 32.1 |      |       | 50.6  | 5.4                       |      |
| Approach LOS                      | C    |      |       | D     | A                         |      |
| <b>Intersection Summary</b>       |      |      |       |       |                           |      |
| HCM 2000 Control Delay            |      |      | 37.3  |       | HCM 2000 Level of Service | D    |
| HCM 2000 Volume to Capacity ratio |      |      | 0.23  |       |                           |      |
| Actuated Cycle Length (s)         |      |      | 120.0 |       | Sum of lost time (s)      | 13.0 |
| Intersection Capacity Utilization |      |      | 31.8% |       | ICU Level of Service      | A    |
| Analysis Period (min)             |      |      | 15    |       |                           |      |
| c Critical Lane Group             |      |      |       |       |                           |      |

# HCM Unsignalized Intersection Capacity Analysis

## 15: Bramalea Road & Old School Road

Future Background 2033 (12489) PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 45                                                                                | 215                                                                               | 25                                                                                | 15                                                                                | 380                                                                               | 10                                                                                | 60                                                                                 | 220                                                                                 | 35                                                                                  | 10                                                                                  | 60                                                                                  | 25                                                                                  |
| Future Volume (vph)               | 45                                                                                | 215                                                                               | 25                                                                                | 15                                                                                | 380                                                                               | 10                                                                                | 60                                                                                 | 220                                                                                 | 35                                                                                  | 10                                                                                  | 60                                                                                  | 25                                                                                  |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Hourly flow rate (vph)            | 45                                                                                | 215                                                                               | 25                                                                                | 15                                                                                | 380                                                                               | 10                                                                                | 60                                                                                 | 220                                                                                 | 35                                                                                  | 10                                                                                  | 60                                                                                  | 25                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 285                                                                               | 405                                                                               | 315                                                                               | 95                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 45                                                                                | 15                                                                                | 60                                                                                | 10                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 25                                                                                | 10                                                                                | 35                                                                                | 25                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | 0.05                                                                              | 0.01                                                                              | -0.03                                                                             | -0.03                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 6.1                                                                               | 5.8                                                                               | 6.1                                                                               | 6.7                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.48                                                                              | 0.65                                                                              | 0.54                                                                              | 0.18                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 549                                                                               | 591                                                                               | 542                                                                               | 436                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 14.6                                                                              | 19.1                                                                              | 16.0                                                                              | 11.2                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 14.6                                                                              | 19.1                                                                              | 16.0                                                                              | 11.2                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | B                                                                                 | C                                                                                 | C                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   |                                                                                   | 16.4                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 63.1%                                                                             | ICU Level of Service                                                              | B                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Queues

## 1: Dixie Road & Mayfield Road

Future Total 2033 AM Peak Hour

|                        |                                                                                    |                                                                                                                                                                      |  |  |                                                                                                                                                                      |  |  |                                                                                      |  |  |                                                                                      |  |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                                                                                                                 | EBT                                                                                                                                                                                                                                                   | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                                                                                                   | WBR                                                                               | NBL                                                                                | NBT                                                                                                                                                                     | NBR                                                                                 | SBL                                                                                 | SBT                                                                                                                                                                     | SBR                                                                                 |
| Lane Configurations    |   |    |  |  |    |  |  |   |  |  |   |  |
| Traffic Volume (vph)   | 905                                                                                                                                                                 | 2005                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 930                                                                                                                                                                                                                                                   | 225                                                                               | 130                                                                                | 355                                                                                                                                                                     | 60                                                                                  | 115                                                                                 | 310                                                                                                                                                                     | 455                                                                                 |
| Future Volume (vph)    | 905                                                                                                                                                                 | 2005                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 930                                                                                                                                                                                                                                                   | 225                                                                               | 130                                                                                | 355                                                                                                                                                                     | 60                                                                                  | 115                                                                                 | 310                                                                                                                                                                     | 455                                                                                 |
| Lane Group Flow (vph)  | 905                                                                                                                                                                 | 2005                                                                                                                                                                                                                                                  | 280                                                                               | 60                                                                                | 930                                                                                                                                                                                                                                                   | 225                                                                               | 130                                                                                | 355                                                                                                                                                                     | 60                                                                                  | 115                                                                                 | 310                                                                                                                                                                     | 455                                                                                 |
| Turn Type              | Prot                                                                                                                                                                | NA                                                                                                                                                                                                                                                    | custom                                                                            | pm+pt                                                                             | NA                                                                                                                                                                                                                                                    | custom                                                                            | pm+pt                                                                              | NA                                                                                                                                                                      | custom                                                                              | pm+pt                                                                               | NA                                                                                                                                                                      | custom                                                                              |
| Protected Phases       | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     |                                                                                   | 1                                                                                 | 6                                                                                                                                                                                                                                                     |                                                                                   | 7                                                                                  | 4                                                                                                                                                                       |                                                                                     | 3                                                                                   | 8                                                                                                                                                                       |                                                                                     |
| Permitted Phases       |                                                                                                                                                                     |                                                                                                                                                                                                                                                       | 2 4                                                                               | 6                                                                                 |                                                                                                                                                                                                                                                       | 6 8                                                                               | 4                                                                                  |                                                                                                                                                                         | 4 6                                                                                 | 8                                                                                   |                                                                                                                                                                         | 8 2                                                                                 |
| Detector Phase         | 5                                                                                                                                                                   | 2                                                                                                                                                                                                                                                     | 2 4                                                                               | 1                                                                                 | 6                                                                                                                                                                                                                                                     | 6 8                                                                               | 7                                                                                  | 4                                                                                                                                                                       | 4 6                                                                                 | 3                                                                                   | 8                                                                                                                                                                       | 8 2                                                                                 |
| Switch Phase           |                                                                                                                                                                     |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                                                                                                                                                                                       |                                                                                   |                                                                                    |                                                                                                                                                                         |                                                                                     |                                                                                     |                                                                                                                                                                         |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                                                                                                                 | 8.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                               | 8.0                                                                                                                                                                                                                                                   |                                                                                   | 5.0                                                                                | 8.0                                                                                                                                                                     |                                                                                     | 5.0                                                                                 | 8.0                                                                                                                                                                     |                                                                                     |
| Minimum Split (s)      | 9.5                                                                                                                                                                 | 44.9                                                                                                                                                                                                                                                  |                                                                                   | 9.5                                                                               | 44.9                                                                                                                                                                                                                                                  |                                                                                   | 9.5                                                                                | 47.0                                                                                                                                                                    |                                                                                     | 9.5                                                                                 | 47.9                                                                                                                                                                    |                                                                                     |
| Total Split (s)        | 31.0                                                                                                                                                                | 66.4                                                                                                                                                                                                                                                  |                                                                                   | 9.6                                                                               | 45.0                                                                                                                                                                                                                                                  |                                                                                   | 11.1                                                                               | 47.9                                                                                                                                                                    |                                                                                     | 11.1                                                                                | 47.9                                                                                                                                                                    |                                                                                     |
| Total Split (%)        | 23.0%                                                                                                                                                               | 49.2%                                                                                                                                                                                                                                                 |                                                                                   | 7.1%                                                                              | 33.3%                                                                                                                                                                                                                                                 |                                                                                   | 8.2%                                                                               | 35.5%                                                                                                                                                                   |                                                                                     | 8.2%                                                                                | 35.5%                                                                                                                                                                   |                                                                                     |
| Yellow Time (s)        | 3.5                                                                                                                                                                 | 4.6                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                               | 4.6                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                                | 4.0                                                                                                                                                                     |                                                                                     | 3.5                                                                                 | 4.6                                                                                                                                                                     |                                                                                     |
| All-Red Time (s)       | 1.0                                                                                                                                                                 | 2.3                                                                                                                                                                                                                                                   |                                                                                   | 1.0                                                                               | 2.3                                                                                                                                                                                                                                                   |                                                                                   | 1.0                                                                                | 2.0                                                                                                                                                                     |                                                                                     | 1.0                                                                                 | 2.3                                                                                                                                                                     |                                                                                     |
| Lost Time Adjust (s)   | -1.0                                                                                                                                                                | 0.0                                                                                                                                                                                                                                                   |                                                                                   | -1.0                                                                              | 0.0                                                                                                                                                                                                                                                   |                                                                                   | -1.0                                                                               | 0.0                                                                                                                                                                     |                                                                                     | -1.0                                                                                | 0.0                                                                                                                                                                     |                                                                                     |
| Total Lost Time (s)    | 3.5                                                                                                                                                                 | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                               | 6.9                                                                                                                                                                                                                                                   |                                                                                   | 3.5                                                                                | 6.0                                                                                                                                                                     |                                                                                     | 3.5                                                                                 | 6.9                                                                                                                                                                     |                                                                                     |
| Lead/Lag               | Lead                                                                                                                                                                | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                              | Lag                                                                                                                                                                                                                                                   |                                                                                   | Lead                                                                               | Lag                                                                                                                                                                     |                                                                                     | Lead                                                                                | Lag                                                                                                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                               | Yes                                                                                                                                                                                                                                                   |                                                                                   | Yes                                                                                | Yes                                                                                                                                                                     |                                                                                     | Yes                                                                                 | Yes                                                                                                                                                                     |                                                                                     |
| Recall Mode            | None                                                                                                                                                                | C-Min                                                                                                                                                                                                                                                 |                                                                                   | None                                                                              | C-Min                                                                                                                                                                                                                                                 |                                                                                   | None                                                                               | None                                                                                                                                                                    |                                                                                     | None                                                                                | None                                                                                                                                                                    |                                                                                     |
| v/c Ratio              | 0.88                                                                                                                                                                | 0.70                                                                                                                                                                                                                                                  | 0.23                                                                              | 0.41                                                                              | 0.77                                                                                                                                                                                                                                                  | 0.31                                                                              | 0.54                                                                               | 0.68                                                                                                                                                                    | 0.10                                                                                | 0.65                                                                                | 0.66                                                                                                                                                                    | 0.43                                                                                |
| Control Delay          | 52.2                                                                                                                                                                | 22.9                                                                                                                                                                                                                                                  | 0.8                                                                               | 27.7                                                                              | 50.8                                                                                                                                                                                                                                                  | 2.6                                                                               | 48.4                                                                               | 59.7                                                                                                                                                                    | 1.3                                                                                 | 58.1                                                                                | 60.3                                                                                                                                                                    | 1.6                                                                                 |
| Queue Delay            | 0.0                                                                                                                                                                 | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                                                                                                   | 0.0                                                                               | 0.0                                                                                | 0.0                                                                                                                                                                     | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                                                                                                     | 0.0                                                                                 |
| Total Delay            | 52.2                                                                                                                                                                | 22.9                                                                                                                                                                                                                                                  | 0.8                                                                               | 27.7                                                                              | 50.8                                                                                                                                                                                                                                                  | 2.6                                                                               | 48.4                                                                               | 59.7                                                                                                                                                                    | 1.3                                                                                 | 58.1                                                                                | 60.3                                                                                                                                                                    | 1.6                                                                                 |
| Queue Length 50th (m)  | 125.4                                                                                                                                                               | 141.4                                                                                                                                                                                                                                                 | 0.0                                                                               | 5.2                                                                               | 86.0                                                                                                                                                                                                                                                  | 0.0                                                                               | 29.4                                                                               | 49.9                                                                                                                                                                    | 0.0                                                                                 | 26.2                                                                                | 43.6                                                                                                                                                                    | 0.0                                                                                 |
| Queue Length 95th (m)  | #187.8                                                                                                                                                              | 190.4                                                                                                                                                                                                                                                 | 3.8                                                                               | 13.7                                                                              | 102.8                                                                                                                                                                                                                                                 | 9.9                                                                               | 45.1                                                                               | 63.5                                                                                                                                                                    | 2.9                                                                                 | 41.4                                                                                | 56.7                                                                                                                                                                    | 4.6                                                                                 |
| Internal Link Dist (m) |                                                                                                                                                                     | 980.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                   | 272.1                                                                                                                                                                                                                                                 |                                                                                   |                                                                                    | 844.0                                                                                                                                                                   |                                                                                     |                                                                                     | 481.5                                                                                                                                                                   |                                                                                     |
| Turn Bay Length (m)    | 115.0                                                                                                                                                               |                                                                                                                                                                                                                                                       | 75.0                                                                              | 115.0                                                                             |                                                                                                                                                                                                                                                       | 110.0                                                                             | 115.0                                                                              |                                                                                                                                                                         | 65.0                                                                                | 115.0                                                                               |                                                                                                                                                                         | 135.0                                                                               |
| Base Capacity (vph)    | 1023                                                                                                                                                                | 2861                                                                                                                                                                                                                                                  | 1359                                                                              | 148                                                                               | 1309                                                                                                                                                                                                                                                  | 943                                                                               | 242                                                                                | 1029                                                                                                                                                                    | 824                                                                                 | 178                                                                                 | 947                                                                                                                                                                     | 1133                                                                                |
| Starvation Cap Reductn | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                                                                                                   | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                                                                                                     | 0                                                                                 | 0                                                                                  | 0                                                                                                                                                                       | 0                                                                                   | 0                                                                                   | 0                                                                                                                                                                       | 0                                                                                   |
| Reduced v/c Ratio      | 0.88                                                                                                                                                                | 0.70                                                                                                                                                                                                                                                  | 0.21                                                                              | 0.41                                                                              | 0.71                                                                                                                                                                                                                                                  | 0.24                                                                              | 0.54                                                                               | 0.34                                                                                                                                                                    | 0.07                                                                                | 0.65                                                                                | 0.33                                                                                                                                                                    | 0.40                                                                                |

### Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Dixie Road & Mayfield Road

|                                                                                        |                                                                                            |                                                                                        |                                                                                         |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
|  Ø1 |  Ø2 (R) |  Ø3 |  Ø4 |
| 9.6 s                                                                                  | 66.4 s                                                                                     | 11.1 s                                                                                 | 47.9 s                                                                                  |
|  Ø5 |  Ø6 (R) |  Ø7 |  Ø8 |
| 31 s                                                                                   | 45 s                                                                                       | 11.1 s                                                                                 | 47.9 s                                                                                  |

# HCM Signalized Intersection Capacity Analysis

## 1: Dixie Road & Mayfield Road

Future Total 2033 AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |  |   |  |  |  |  |  |
| Traffic Volume (vph)              | 905                                                                               | 2005                                                                              | 280                                                                               | 60                                                                                | 930                                                                               | 225                                                                               | 130                                                                                 | 355                                                                                 | 60                                                                                  | 115                                                                                 | 310                                                                                 | 455                                                                                 |
| Future Volume (vph)               | 905                                                                               | 2005                                                                              | 280                                                                               | 60                                                                                | 930                                                                               | 225                                                                               | 130                                                                                 | 355                                                                                 | 60                                                                                  | 115                                                                                 | 310                                                                                 | 455                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 3.5                                                                               | 6.9                                                                               | 6.9                                                                               | 3.5                                                                               | 6.9                                                                               | 6.9                                                                               | 3.5                                                                                 | 6.0                                                                                 | 6.0                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 6.9                                                                                 |
| Lane Util. Factor                 | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 2748                                                                              | 4902                                                                              | 1554                                                                              | 1539                                                                              | 4641                                                                              | 1452                                                                              | 1666                                                                                | 3318                                                                                | 1319                                                                                | 1382                                                                                | 3120                                                                                | 1256                                                                                |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.11                                                                              | 1.00                                                                              | 1.00                                                                              | 0.45                                                                                | 1.00                                                                                | 1.00                                                                                | 0.36                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 2748                                                                              | 4902                                                                              | 1554                                                                              | 180                                                                               | 4641                                                                              | 1452                                                                              | 784                                                                                 | 3318                                                                                | 1319                                                                                | 526                                                                                 | 3120                                                                                | 1256                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 905                                                                               | 2005                                                                              | 280                                                                               | 60                                                                                | 930                                                                               | 225                                                                               | 130                                                                                 | 355                                                                                 | 60                                                                                  | 115                                                                                 | 310                                                                                 | 455                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 74                                                                                | 0                                                                                 | 0                                                                                 | 133                                                                               | 0                                                                                   | 0                                                                                   | 35                                                                                  | 0                                                                                   | 0                                                                                   | 124                                                                                 |
| Lane Group Flow (vph)             | 905                                                                               | 2005                                                                              | 206                                                                               | 60                                                                                | 930                                                                               | 92                                                                                | 130                                                                                 | 355                                                                                 | 25                                                                                  | 115                                                                                 | 310                                                                                 | 331                                                                                 |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   | 5                                                                                 | 5                                                                                 |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 26%                                                                               | 7%                                                                                | 1%                                                                                | 16%                                                                               | 13%                                                                               | 10%                                                                               | 7%                                                                                  | 10%                                                                                 | 19%                                                                                 | 29%                                                                                 | 17%                                                                                 | 25%                                                                                 |
| Turn Type                         | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                               | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases                  | 5                                                                                 | 2                                                                                 |                                                                                   | 1                                                                                 | 6                                                                                 |                                                                                   | 7                                                                                   | 4                                                                                   |                                                                                     | 3                                                                                   | 8                                                                                   |                                                                                     |
| Permitted Phases                  |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                   |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Actuated Green, G (s)             | 49.3                                                                              | 77.9                                                                              | 99.3                                                                              | 41.4                                                                              | 35.0                                                                              | 55.4                                                                              | 28.9                                                                                | 21.4                                                                                | 56.4                                                                                | 27.8                                                                                | 20.4                                                                                | 98.3                                                                                |
| Effective Green, g (s)            | 50.3                                                                              | 77.9                                                                              | 99.3                                                                              | 43.4                                                                              | 35.0                                                                              | 55.4                                                                              | 30.9                                                                                | 21.4                                                                                | 56.4                                                                                | 29.8                                                                                | 20.4                                                                                | 98.3                                                                                |
| Actuated g/C Ratio                | 0.37                                                                              | 0.58                                                                              | 0.74                                                                              | 0.32                                                                              | 0.26                                                                              | 0.41                                                                              | 0.23                                                                                | 0.16                                                                                | 0.42                                                                                | 0.22                                                                                | 0.15                                                                                | 0.73                                                                                |
| Clearance Time (s)                | 4.5                                                                               | 6.9                                                                               |                                                                                   | 4.5                                                                               | 6.9                                                                               |                                                                                   | 4.5                                                                                 | 6.0                                                                                 |                                                                                     | 4.5                                                                                 | 6.9                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 1023                                                                              | 2828                                                                              | 1143                                                                              | 132                                                                               | 1203                                                                              | 595                                                                               | 234                                                                                 | 525                                                                                 | 551                                                                                 | 169                                                                                 | 471                                                                                 | 914                                                                                 |
| v/s Ratio Prot                    | c0.33                                                                             | 0.41                                                                              |                                                                                   | 0.02                                                                              | c0.20                                                                             |                                                                                   | 0.03                                                                                | 0.11                                                                                |                                                                                     | c0.04                                                                               | 0.10                                                                                |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.13                                                                              | 0.12                                                                              |                                                                                   | 0.06                                                                              | 0.09                                                                                |                                                                                     | 0.02                                                                                | c0.11                                                                               |                                                                                     | 0.26                                                                                |
| v/c Ratio                         | 0.88                                                                              | 0.71                                                                              | 0.18                                                                              | 0.45                                                                              | 0.77                                                                              | 0.16                                                                              | 0.56                                                                                | 0.68                                                                                | 0.05                                                                                | 0.68                                                                                | 0.66                                                                                | 0.36                                                                                |
| Uniform Delay, d1                 | 39.6                                                                              | 20.4                                                                              | 5.4                                                                               | 43.5                                                                              | 46.3                                                                              | 25.1                                                                              | 43.8                                                                                | 53.5                                                                                | 23.3                                                                                | 45.7                                                                                | 54.0                                                                                | 6.8                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 9.3                                                                               | 1.5                                                                               | 0.1                                                                               | 2.5                                                                               | 4.9                                                                               | 0.1                                                                               | 2.8                                                                                 | 3.4                                                                                 | 0.0                                                                                 | 10.7                                                                                | 3.3                                                                                 | 0.2                                                                                 |
| Delay (s)                         | 48.9                                                                              | 22.0                                                                              | 5.5                                                                               | 46.0                                                                              | 51.2                                                                              | 25.2                                                                              | 46.6                                                                                | 57.0                                                                                | 23.4                                                                                | 56.5                                                                                | 57.3                                                                                | 7.0                                                                                 |
| Level of Service                  | D                                                                                 | C                                                                                 | A                                                                                 | D                                                                                 | D                                                                                 | C                                                                                 | D                                                                                   | E                                                                                   | C                                                                                   | E                                                                                   | E                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 28.2                                                                              |                                                                                   |                                                                                   | 46.1                                                                              |                                                                                   |                                                                                     | 50.8                                                                                |                                                                                     |                                                                                     | 31.2                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | D                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 34.5                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.80                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 135.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 20.8                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 81.7%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Queues

## 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

Future Total 2033 AM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                               | SBL                                                                                | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |                                                                                    |  |  |
| Traffic Volume (vph)   | 20                                                                                | 65                                                                                | 35                                                                                | 0                                                                                 | 135                                                                               | 1235                                                                              | 15                                                                                 | 780                                                                                 | 40                                                                                  |
| Future Volume (vph)    | 20                                                                                | 65                                                                                | 35                                                                                | 0                                                                                 | 135                                                                               | 1235                                                                              | 15                                                                                 | 780                                                                                 | 40                                                                                  |
| Lane Group Flow (vph)  | 20                                                                                | 65                                                                                | 35                                                                                | 5                                                                                 | 135                                                                               | 1270                                                                              | 0                                                                                  | 795                                                                                 | 40                                                                                  |
| Turn Type              | Perm                                                                              | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                               | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                    | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                   | 6                                                                                  |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                 | 6                                                                                  | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 31.0                                                                              | 31.0                                                                              | 31.0                                                                               | 31.0                                                                                | 31.0                                                                                |
| Total Split (s)        | 42.0                                                                              | 42.0                                                                              | 42.0                                                                              | 42.0                                                                              | 78.0                                                                              | 78.0                                                                              | 78.0                                                                               | 78.0                                                                                | 78.0                                                                                |
| Total Split (%)        | 35.0%                                                                             | 35.0%                                                                             | 35.0%                                                                             | 35.0%                                                                             | 65.0%                                                                             | 65.0%                                                                             | 65.0%                                                                              | 65.0%                                                                               | 65.0%                                                                               |
| Yellow Time (s)        | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 |
| All-Red Time (s)       | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                | 3.0                                                                                 | 3.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                    | 6.0                                                                                 | 6.0                                                                                 |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                              | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.18                                                                              | 0.22                                                                              | 0.45                                                                              | 0.02                                                                              | 0.26                                                                              | 0.47                                                                              |                                                                                    | 0.35                                                                                | 0.03                                                                                |
| Control Delay          | 52.5                                                                              | 1.6                                                                               | 69.4                                                                              | 0.2                                                                               | 4.4                                                                               | 4.1                                                                               |                                                                                    | 2.0                                                                                 | 0.8                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                    | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 52.5                                                                              | 1.6                                                                               | 69.4                                                                              | 0.2                                                                               | 4.4                                                                               | 4.1                                                                               |                                                                                    | 2.0                                                                                 | 0.8                                                                                 |
| Queue Length 50th (m)  | 4.7                                                                               | 0.0                                                                               | 8.4                                                                               | 0.0                                                                               | 6.2                                                                               | 39.4                                                                              |                                                                                    | 9.5                                                                                 | 0.1                                                                                 |
| Queue Length 95th (m)  | 12.3                                                                              | 0.0                                                                               | 18.9                                                                              | 0.0                                                                               | 16.0                                                                              | 65.7                                                                              |                                                                                    | 21.9                                                                                | m0.6                                                                                |
| Internal Link Dist (m) |                                                                                   |                                                                                   |                                                                                   | 96.6                                                                              |                                                                                   | 481.5                                                                             |                                                                                    | 358.1                                                                               |                                                                                     |
| Turn Bay Length (m)    | 15.0                                                                              | 15.0                                                                              | 15.0                                                                              |                                                                                   | 70.0                                                                              |                                                                                   |                                                                                    |                                                                                     | 65.0                                                                                |
| Base Capacity (vph)    | 393                                                                               | 563                                                                               | 271                                                                               | 537                                                                               | 519                                                                               | 2680                                                                              |                                                                                    | 2283                                                                                | 1353                                                                                |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                    | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.05                                                                              | 0.12                                                                              | 0.13                                                                              | 0.01                                                                              | 0.26                                                                              | 0.47                                                                              |                                                                                    | 0.35                                                                                | 0.03                                                                                |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3



# HCM Signalized Intersection Capacity Analysis

## 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

Future Total 2033 AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |   |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)              | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1235                                                                                | 35                                                                                  | 15                                                                                  | 780                                                                                 | 40                                                                                  |
| Future Volume (vph)               | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1235                                                                                | 35                                                                                  | 15                                                                                  | 780                                                                                 | 40                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              |                                                                                   | 0.85                                                                              | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              |                                                                                   | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1653                                                                              |                                                                                   | 1413                                                                              | 1137                                                                              | 1633                                                                              |                                                                                   | 1668                                                                                | 3175                                                                                |                                                                                     |                                                                                     | 2952                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.75                                                                              |                                                                                   | 1.00                                                                              | 0.76                                                                              | 1.00                                                                              |                                                                                   | 0.35                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.92                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1313                                                                              |                                                                                   | 1413                                                                              | 906                                                                               | 1633                                                                              |                                                                                   | 614                                                                                 | 3175                                                                                |                                                                                     |                                                                                     | 2706                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 20                                                                                | 0                                                                                 | 65                                                                                | 35                                                                                | 0                                                                                 | 5                                                                                 | 135                                                                                 | 1235                                                                                | 35                                                                                  | 15                                                                                  | 780                                                                                 | 40                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 60                                                                                | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                   | 1                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 7                                                                                   |
| Lane Group Flow (vph)             | 20                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                | 0                                                                                 | 0                                                                                 | 135                                                                                 | 1269                                                                                | 0                                                                                   | 0                                                                                   | 795                                                                                 | 33                                                                                  |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     |                                                                                     |
| Heavy Vehicles (%)                | 8%                                                                                | 0%                                                                                | 13%                                                                               | 57%                                                                               | 0%                                                                                | 0%                                                                                | 7%                                                                                  | 14%                                                                                 | 28%                                                                                 | 0%                                                                                  | 24%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 9.1                                                                               |                                                                                   | 9.1                                                                               | 9.1                                                                               | 9.1                                                                               |                                                                                   | 98.9                                                                                | 98.9                                                                                |                                                                                     |                                                                                     | 98.9                                                                                | 98.9                                                                                |
| Effective Green, g (s)            | 9.1                                                                               |                                                                                   | 9.1                                                                               | 9.1                                                                               | 9.1                                                                               |                                                                                   | 98.9                                                                                | 98.9                                                                                |                                                                                     |                                                                                     | 98.9                                                                                | 98.9                                                                                |
| Actuated g/C Ratio                | 0.08                                                                              |                                                                                   | 0.08                                                                              | 0.08                                                                              | 0.08                                                                              |                                                                                   | 0.82                                                                                | 0.82                                                                                |                                                                                     |                                                                                     | 0.82                                                                                | 0.82                                                                                |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 99                                                                                |                                                                                   | 107                                                                               | 68                                                                                | 123                                                                               |                                                                                   | 506                                                                                 | 2616                                                                                |                                                                                     |                                                                                     | 2230                                                                                | 1316                                                                                |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                     | c0.40                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    | 0.02                                                                              |                                                                                   | 0.00                                                                              | c0.04                                                                             |                                                                                   |                                                                                   | 0.22                                                                                |                                                                                     |                                                                                     |                                                                                     | 0.29                                                                                | 0.02                                                                                |
| v/c Ratio                         | 0.20                                                                              |                                                                                   | 0.05                                                                              | 0.51                                                                              | 0.00                                                                              |                                                                                   | 0.27                                                                                | 0.49                                                                                |                                                                                     |                                                                                     | 0.36                                                                                | 0.03                                                                                |
| Uniform Delay, d1                 | 52.0                                                                              |                                                                                   | 51.4                                                                              | 53.3                                                                              | 51.3                                                                              |                                                                                   | 2.4                                                                                 | 3.1                                                                                 |                                                                                     |                                                                                     | 2.6                                                                                 | 1.9                                                                                 |
| Progression Factor                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.55                                                                                | 0.79                                                                                |
| Incremental Delay, d2             | 1.0                                                                               |                                                                                   | 0.2                                                                               | 6.4                                                                               | 0.0                                                                               |                                                                                   | 1.3                                                                                 | 0.6                                                                                 |                                                                                     |                                                                                     | 0.4                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 53.1                                                                              |                                                                                   | 51.6                                                                              | 59.8                                                                              | 51.3                                                                              |                                                                                   | 3.7                                                                                 | 3.7                                                                                 |                                                                                     |                                                                                     | 1.8                                                                                 | 1.5                                                                                 |
| Level of Service                  | D                                                                                 |                                                                                   | D                                                                                 | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 51.9                                                                              |                                                                                   |                                                                                   | 58.7                                                                              |                                                                                   |                                                                                     | 3.7                                                                                 |                                                                                     |                                                                                     | 1.8                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 5.7                                                                               |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.49                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 80.9%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



## Queues

### 7: Dixie Road & UPS Facility Access/12173 West Access 1

Future Total 2033 AM Peak Hour

|                        |  |  |  |  |  |      |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------|
| Lane Group             | EBR                                                                               | NBL                                                                               | NBT                                                                               | SBL                                                                               | SBT                                                                               | Ø8   |
| Lane Configurations    |  |  |  |                                                                                   |  |      |
| Traffic Volume (vph)   | 5                                                                                 | 60                                                                                | 1140                                                                              | 15                                                                                | 860                                                                               |      |
| Future Volume (vph)    | 5                                                                                 | 60                                                                                | 1140                                                                              | 15                                                                                | 860                                                                               |      |
| Lane Group Flow (vph)  | 5                                                                                 | 60                                                                                | 1150                                                                              | 0                                                                                 | 890                                                                               |      |
| Turn Type              | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                |      |
| Protected Phases       |                                                                                   |                                                                                   | 2                                                                                 |                                                                                   | 6                                                                                 | 8    |
| Permitted Phases       | 4                                                                                 | 2                                                                                 |                                                                                   | 6                                                                                 |                                                                                   |      |
| Detector Phase         | 4                                                                                 | 2                                                                                 | 2                                                                                 | 6                                                                                 | 6                                                                                 |      |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0  |
| Minimum Split (s)      | 39.0                                                                              | 31.0                                                                              | 31.0                                                                              | 31.0                                                                              | 31.0                                                                              | 39.0 |
| Total Split (s)        | 39.0                                                                              | 81.0                                                                              | 81.0                                                                              | 81.0                                                                              | 81.0                                                                              | 39.0 |
| Total Split (%)        | 32.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 33%  |
| Yellow Time (s)        | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0  |
| All-Red Time (s)       | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0  |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |      |
| Total Lost Time (s)    | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               |      |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Recall Mode            | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                             | C-Max                                                                             | None |
| v/c Ratio              | 0.02                                                                              | 0.10                                                                              | 0.37                                                                              |                                                                                   | 0.60                                                                              |      |
| Control Delay          | 0.2                                                                               | 0.9                                                                               | 0.8                                                                               |                                                                                   | 6.8                                                                               |      |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |      |
| Total Delay            | 0.2                                                                               | 0.9                                                                               | 0.8                                                                               |                                                                                   | 6.8                                                                               |      |
| Queue Length 50th (m)  | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   | 8.7                                                                               |      |
| Queue Length 95th (m)  | 0.0                                                                               | 3.6                                                                               | 29.1                                                                              |                                                                                   | 238.2                                                                             |      |
| Internal Link Dist (m) |                                                                                   |                                                                                   | 358.1                                                                             |                                                                                   | 696.2                                                                             |      |
| Turn Bay Length (m)    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |      |
| Base Capacity (vph)    | 404                                                                               | 612                                                                               | 3081                                                                              |                                                                                   | 1473                                                                              |      |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |      |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |      |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   | 0                                                                                 |      |
| Reduced v/c Ratio      | 0.01                                                                              | 0.10                                                                              | 0.37                                                                              |                                                                                   | 0.60                                                                              |      |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Splits and Phases: 7: Dixie Road & UPS Facility Access/12173 West Access 1



# HCM Signalized Intersection Capacity Analysis

## 7: Dixie Road & UPS Facility Access/12173 West Access 1

Future Total 2033 AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)              | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1140                                                                                | 10                                                                                  | 15                                                                                  | 860                                                                                 | 15                                                                                  |
| Future Volume (vph)               | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1140                                                                                | 10                                                                                  | 15                                                                                  | 860                                                                                 | 15                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Lane Util. Factor                 |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                               |                                                                                   |                                                                                   | 0.85                                                                              |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flt Protected                     |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (prot)                 |                                                                                   |                                                                                   | 998                                                                               |                                                                                   |                                                                                   |                                                                                   | 1700                                                                                | 3173                                                                                |                                                                                     |                                                                                     | 1557                                                                                |                                                                                     |
| Flt Permitted                     |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.35                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.97                                                                                |                                                                                     |
| Satd. Flow (perm)                 |                                                                                   |                                                                                   | 998                                                                               |                                                                                   |                                                                                   |                                                                                   | 630                                                                                 | 3173                                                                                |                                                                                     |                                                                                     | 1516                                                                                |                                                                                     |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1140                                                                                | 10                                                                                  | 15                                                                                  | 860                                                                                 | 15                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 60                                                                                  | 1150                                                                                | 0                                                                                   | 0                                                                                   | 890                                                                                 | 0                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 60%                                                                               | 0%                                                                                | 0%                                                                                | 0%                                                                                | 5%                                                                                  | 15%                                                                                 | 0%                                                                                  | 0%                                                                                  | 21%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  |                                                                                     |
| Protected Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     |                                                                                     | 6                                                                                   |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |                                                                                     |
| Actuated Green, G (s)             |                                                                                   |                                                                                   | 1.1                                                                               |                                                                                   |                                                                                   |                                                                                   | 106.9                                                                               | 106.9                                                                               |                                                                                     |                                                                                     | 106.9                                                                               |                                                                                     |
| Effective Green, g (s)            |                                                                                   |                                                                                   | 1.1                                                                               |                                                                                   |                                                                                   |                                                                                   | 106.9                                                                               | 106.9                                                                               |                                                                                     |                                                                                     | 106.9                                                                               |                                                                                     |
| Actuated g/C Ratio                |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.89                                                                                | 0.89                                                                                |                                                                                     |                                                                                     | 0.89                                                                                |                                                                                     |
| Clearance Time (s)                |                                                                                   |                                                                                   | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             |                                                                                   |                                                                                   | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                |                                                                                   |                                                                                   | 9                                                                                 |                                                                                   |                                                                                   |                                                                                   | 561                                                                                 | 2826                                                                                |                                                                                     |                                                                                     | 1350                                                                                |                                                                                     |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.36                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | c0.00                                                                             |                                                                                   |                                                                                   |                                                                                   | 0.10                                                                                |                                                                                     |                                                                                     |                                                                                     | c0.59                                                                               |                                                                                     |
| v/c Ratio                         |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.11                                                                                | 0.41                                                                                |                                                                                     |                                                                                     | 0.66                                                                                |                                                                                     |
| Uniform Delay, d1                 |                                                                                   |                                                                                   | 58.9                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.8                                                                                 | 1.1                                                                                 |                                                                                     |                                                                                     | 1.7                                                                                 |                                                                                     |
| Progression Factor                |                                                                                   |                                                                                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   | 0.99                                                                                | 0.93                                                                                |                                                                                     |                                                                                     | 4.61                                                                                |                                                                                     |
| Incremental Delay, d2             |                                                                                   |                                                                                   | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                   | 0.3                                                                                 | 0.4                                                                                 |                                                                                     |                                                                                     | 2.2                                                                                 |                                                                                     |
| Delay (s)                         |                                                                                   |                                                                                   | 59.1                                                                              |                                                                                   |                                                                                   |                                                                                   | 1.1                                                                                 | 1.4                                                                                 |                                                                                     |                                                                                     | 10.2                                                                                |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                   |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Approach Delay (s)                |                                                                                   | 59.1                                                                              |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                     | 1.4                                                                                 |                                                                                     |                                                                                     | 10.2                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | A                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 5.3                                                                               |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.65                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 63.2%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Dixie Road & 12489 Site Access 1

Future Total 2033 AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 0                                                                                 | 1055                                                                              | 60                                                                                | 0                                                                                 | 860                                                                               |
| Future Volume (Veh/h)             | 0                                                                                 | 0                                                                                 | 1055                                                                              | 60                                                                                | 0                                                                                 | 860                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 0                                                                                 | 1055                                                                              | 60                                                                                | 0                                                                                 | 860                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 394                                                                               |
| pX, platoon unblocked             | 0.80                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1915                                                                              | 1055                                                                              |                                                                                   |                                                                                   | 1115                                                                              |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 2022                                                                              | 1055                                                                              |                                                                                   |                                                                                   | 1115                                                                              |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 100                                                                               |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 51                                                                                | 277                                                                               |                                                                                   |                                                                                   | 634                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 0                                                                                 | 1055                                                                              | 60                                                                                | 860                                                                               |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 0                                                                                 | 60                                                                                | 0                                                                                 |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 634                                                                               |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.00                                                                              | 0.62                                                                              | 0.04                                                                              | 0.00                                                                              |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 58.9%                                                                             |                                                                                   | ICU Level of Service                                                              | B                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

Future Total 2033 AM Peak Hour

|                        |  |  |  |  |  |  |   |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 15                                                                                | 0                                                                                 | 45                                                                                | 0                                                                                 | 70                                                                                | 935                                                                               | 50                                                                                  | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| Future Volume (vph)    | 15                                                                                | 0                                                                                 | 45                                                                                | 0                                                                                 | 70                                                                                | 935                                                                               | 50                                                                                  | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| Lane Group Flow (vph)  | 15                                                                                | 30                                                                                | 45                                                                                | 20                                                                                | 70                                                                                | 935                                                                               | 50                                                                                  | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| Turn Type              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   | 4                                                                                 |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                   | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 30.5                                                                              | 30.5                                                                              | 30.5                                                                              | 30.5                                                                              | 28.5                                                                              | 28.5                                                                              | 28.5                                                                                | 28.5                                                                                | 28.5                                                                                | 28.5                                                                                |
| Total Split (s)        | 30.5                                                                              | 30.5                                                                              | 30.5                                                                              | 30.5                                                                              | 89.5                                                                              | 89.5                                                                              | 89.5                                                                                | 89.5                                                                                | 89.5                                                                                | 89.5                                                                                |
| Total Split (%)        | 25.4%                                                                             | 25.4%                                                                             | 25.4%                                                                             | 25.4%                                                                             | 74.6%                                                                             | 74.6%                                                                             | 74.6%                                                                               | 74.6%                                                                               | 74.6%                                                                               | 74.6%                                                                               |
| Yellow Time (s)        | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.15                                                                              | 0.09                                                                              | 0.54                                                                              | 0.07                                                                              | 0.18                                                                              | 0.66                                                                              | 0.06                                                                                | 0.14                                                                                | 0.59                                                                                | 0.02                                                                                |
| Control Delay          | 49.7                                                                              | 0.6                                                                               | 73.4                                                                              | 0.5                                                                               | 9.3                                                                               | 18.1                                                                              | 4.6                                                                                 | 7.9                                                                                 | 13.0                                                                                | 3.3                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 49.7                                                                              | 0.6                                                                               | 73.4                                                                              | 0.5                                                                               | 9.3                                                                               | 18.1                                                                              | 4.6                                                                                 | 7.9                                                                                 | 13.0                                                                                | 3.3                                                                                 |
| Queue Length 50th (m)  | 3.5                                                                               | 0.0                                                                               | 10.8                                                                              | 0.0                                                                               | 6.9                                                                               | 173.8                                                                             | 2.4                                                                                 | 1.8                                                                                 | 47.0                                                                                | 0.0                                                                                 |
| Queue Length 95th (m)  | 10.0                                                                              | 0.0                                                                               | 22.7                                                                              | 0.0                                                                               | 19.1                                                                              | 285.7                                                                             | 9.4                                                                                 | m11.3                                                                               | 214.6                                                                               | m2.3                                                                                |
| Internal Link Dist (m) |                                                                                   | 161.0                                                                             |                                                                                   | 124.2                                                                             |                                                                                   | 369.7                                                                             |                                                                                     |                                                                                     | 813.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 20.0                                                                              |                                                                                   | 20.0                                                                              |                                                                                   | 60.0                                                                              |                                                                                   | 60.0                                                                                | 60.0                                                                                |                                                                                     | 60.0                                                                                |
| Base Capacity (vph)    | 210                                                                               | 414                                                                               | 168                                                                               | 409                                                                               | 388                                                                               | 1413                                                                              | 830                                                                                 | 361                                                                                 | 1330                                                                                | 1321                                                                                |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.07                                                                              | 0.07                                                                              | 0.27                                                                              | 0.05                                                                              | 0.18                                                                              | 0.66                                                                              | 0.06                                                                                | 0.14                                                                                | 0.59                                                                                | 0.02                                                                                |

## Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2



# HCM Signalized Intersection Capacity Analysis

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

Future Total 2033 AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 15                                                                                | 0                                                                                 | 30                                                                                | 45                                                                                | 0                                                                                 | 20                                                                                | 70                                                                                  | 935                                                                                 | 50                                                                                  | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| Future Volume (vph)               | 15                                                                                | 0                                                                                 | 30                                                                                | 45                                                                                | 0                                                                                 | 20                                                                                | 70                                                                                  | 935                                                                                 | 50                                                                                  | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.0                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1342                                                                              | 1089                                                                              |                                                                                   | 1087                                                                              | 1306                                                                              |                                                                                   | 1394                                                                                | 1715                                                                                | 998                                                                                 | 1623                                                                                | 1614                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.74                                                                              | 1.00                                                                              |                                                                                   | 0.74                                                                              | 1.00                                                                              |                                                                                   | 0.32                                                                                | 1.00                                                                                | 1.00                                                                                | 0.26                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1052                                                                              | 1089                                                                              |                                                                                   | 844                                                                               | 1306                                                                              |                                                                                   | 471                                                                                 | 1715                                                                                | 998                                                                                 | 438                                                                                 | 1614                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 15                                                                                | 0                                                                                 | 30                                                                                | 45                                                                                | 0                                                                                 | 20                                                                                | 70                                                                                  | 935                                                                                 | 50                                                                                  | 50                                                                                  | 790                                                                                 | 25                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 27                                                                                | 0                                                                                 | 0                                                                                 | 18                                                                                | 0                                                                                 | 0                                                                                   | 0                                                                                   | 9                                                                                   | 0                                                                                   | 0                                                                                   | 5                                                                                   |
| Lane Group Flow (vph)             | 15                                                                                | 3                                                                                 | 0                                                                                 | 45                                                                                | 2                                                                                 | 0                                                                                 | 70                                                                                  | 935                                                                                 | 41                                                                                  | 50                                                                                  | 790                                                                                 | 20                                                                                  |
| Heavy Vehicles (%)                | 33%                                                                               | 0%                                                                                | 50%                                                                               | 55%                                                                               | 0%                                                                                | 25%                                                                               | 28%                                                                                 | 12%                                                                                 | 60%                                                                                 | 10%                                                                                 | 19%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 10.7                                                                              | 10.7                                                                              |                                                                                   | 10.7                                                                              | 10.7                                                                              |                                                                                   | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                |
| Effective Green, g (s)            | 10.7                                                                              | 10.7                                                                              |                                                                                   | 10.7                                                                              | 10.7                                                                              |                                                                                   | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                | 96.3                                                                                |
| Actuated g/C Ratio                | 0.09                                                                              | 0.09                                                                              |                                                                                   | 0.09                                                                              | 0.09                                                                              |                                                                                   | 0.80                                                                                | 0.80                                                                                | 0.80                                                                                | 0.80                                                                                | 0.80                                                                                | 0.80                                                                                |
| Clearance Time (s)                | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 93                                                                                | 97                                                                                |                                                                                   | 75                                                                                | 116                                                                               |                                                                                   | 377                                                                                 | 1376                                                                                | 800                                                                                 | 351                                                                                 | 1295                                                                                | 1281                                                                                |
| v/s Ratio Prot                    |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                     | c0.55                                                                               |                                                                                     |                                                                                     | 0.49                                                                                |                                                                                     |
| v/s Ratio Perm                    | 0.01                                                                              |                                                                                   |                                                                                   | c0.05                                                                             |                                                                                   |                                                                                   | 0.15                                                                                |                                                                                     | 0.04                                                                                | 0.11                                                                                |                                                                                     | 0.01                                                                                |
| v/c Ratio                         | 0.16                                                                              | 0.03                                                                              |                                                                                   | 0.60                                                                              | 0.02                                                                              |                                                                                   | 0.19                                                                                | 0.68                                                                                | 0.05                                                                                | 0.14                                                                                | 0.61                                                                                | 0.02                                                                                |
| Uniform Delay, d1                 | 50.5                                                                              | 49.9                                                                              |                                                                                   | 52.6                                                                              | 49.8                                                                              |                                                                                   | 2.8                                                                                 | 5.1                                                                                 | 2.4                                                                                 | 2.6                                                                                 | 4.6                                                                                 | 2.4                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 2.08                                                                                | 2.40                                                                                | 3.25                                                                                | 1.82                                                                                | 1.97                                                                                | 3.21                                                                                |
| Incremental Delay, d2             | 0.8                                                                               | 0.1                                                                               |                                                                                   | 12.3                                                                              | 0.1                                                                               |                                                                                   | 1.0                                                                                 | 2.6                                                                                 | 0.1                                                                                 | 0.7                                                                                 | 1.8                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 51.3                                                                              | 50.0                                                                              |                                                                                   | 64.9                                                                              | 49.9                                                                              |                                                                                   | 6.7                                                                                 | 14.9                                                                                | 8.1                                                                                 | 5.5                                                                                 | 10.8                                                                                | 7.6                                                                                 |
| Level of Service                  | D                                                                                 | D                                                                                 |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | B                                                                                   | A                                                                                   | A                                                                                   | B                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 50.5                                                                              |                                                                                   |                                                                                   | 60.3                                                                              |                                                                                   |                                                                                     | 14.1                                                                                |                                                                                     |                                                                                     | 10.4                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            | 14.8                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                   |                                                                                   | B                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio | 0.67                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                   |                                                                                   | 13.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization | 78.2%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                   |                                                                                   | D                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 11: Dixie Road & 12861 Site Access 1

Future Total 2033 AM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |                                                                                   |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 20                                                                                | 820                                                                               | 150                                                                               | 0                                                                                 | 865                                                                               |
| Future Volume (Veh/h)             | 0                                                                                 | 20                                                                                | 820                                                                               | 150                                                                               | 0                                                                                 | 865                                                                               |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 20                                                                                | 820                                                                               | 150                                                                               | 0                                                                                 | 865                                                                               |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 240                                                                               |
| pX, platoon unblocked             | 0.71                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 1760                                                                              | 895                                                                               |                                                                                   |                                                                                   | 970                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 1868                                                                              | 895                                                                               |                                                                                   |                                                                                   | 970                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.5                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.5                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 94                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 57                                                                                | 308                                                                               |                                                                                   |                                                                                   | 719                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 20                                                                                | 970                                                                               | 865                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 20                                                                                | 150                                                                               | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 308                                                                               | 1700                                                                              | 1700                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.06                                                                              | 0.57                                                                              | 0.51                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 1.7                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 17.5                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 17.5                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.2                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 62.3%                                                                             | ICU Level of Service                                                              |                                                                                   | B                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

# Queues

## 12: Dixie Road & Old School Road

Future Total 2033 AM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 60                                                                                | 370                                                                               | 75                                                                                | 185                                                                               | 160                                                                               | 45                                                                                | 220                                                                                 | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| Future Volume (vph)    | 60                                                                                | 370                                                                               | 75                                                                                | 185                                                                               | 160                                                                               | 45                                                                                | 220                                                                                 | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| Lane Group Flow (vph)  | 60                                                                                | 370                                                                               | 75                                                                                | 185                                                                               | 170                                                                               | 45                                                                                | 220                                                                                 | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| Turn Type              | Perm                                                                              | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 4                                                                                 | 3                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 9.5                                                                               | 31.5                                                                              | 31.5                                                                              | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                |
| Total Split (s)        | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 20.0                                                                              | 59.0                                                                              | 61.0                                                                              | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                | 61.0                                                                                |
| Total Split (%)        | 32.5%                                                                             | 32.5%                                                                             | 32.5%                                                                             | 16.7%                                                                             | 49.2%                                                                             | 50.8%                                                                             | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               | 50.8%                                                                               |
| Yellow Time (s)        | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 3.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 1.0                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               | Lag                                                                               | Lag                                                                               | Lag                                                                               | Lead                                                                              |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Min                                                                             | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               | C-Min                                                                               |
| v/c Ratio              | 0.22                                                                              | 0.85                                                                              | 0.19                                                                              | 0.72                                                                              | 0.25                                                                              | 0.29                                                                              | 0.25                                                                                | 0.08                                                                                | 0.12                                                                                | 0.63                                                                                | 0.21                                                                                |
| Control Delay          | 37.8                                                                              | 62.3                                                                              | 8.7                                                                               | 39.8                                                                              | 6.8                                                                               | 23.3                                                                              | 15.5                                                                                | 5.8                                                                                 | 18.7                                                                                | 27.1                                                                                | 3.5                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 37.8                                                                              | 62.3                                                                              | 8.7                                                                               | 39.8                                                                              | 6.8                                                                               | 23.3                                                                              | 15.5                                                                                | 5.8                                                                                 | 18.7                                                                                | 27.1                                                                                | 3.5                                                                                 |
| Queue Length 50th (m)  | 12.0                                                                              | 87.3                                                                              | 0.0                                                                               | 10.7                                                                              | 4.2                                                                               | 6.6                                                                               | 30.6                                                                                | 2.1                                                                                 | 7.8                                                                                 | 104.5                                                                               | 0.4                                                                                 |
| Queue Length 95th (m)  | 23.5                                                                              | 119.6                                                                             | 11.9                                                                              | 63.8                                                                              | 56.8                                                                              | m14.1                                                                             | 60.1                                                                                | m6.4                                                                                | 17.5                                                                                | 156.9                                                                               | 13.5                                                                                |
| Internal Link Dist (m) |                                                                                   | 371.4                                                                             |                                                                                   |                                                                                   | 41.8                                                                              |                                                                                   | 216.1                                                                               |                                                                                     |                                                                                     | 261.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 75.0                                                                              |                                                                                   | 75.0                                                                              | 65.0                                                                              |                                                                                   | 75.0                                                                              |                                                                                     | 50.0                                                                                | 75.0                                                                                |                                                                                     | 75.0                                                                                |
| Base Capacity (vph)    | 321                                                                               | 509                                                                               | 451                                                                               | 273                                                                               | 787                                                                               | 154                                                                               | 869                                                                                 | 749                                                                                 | 517                                                                                 | 918                                                                                 | 893                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.19                                                                              | 0.73                                                                              | 0.17                                                                              | 0.68                                                                              | 0.22                                                                              | 0.29                                                                              | 0.25                                                                                | 0.08                                                                                | 0.12                                                                                | 0.63                                                                                | 0.21                                                                                |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 12: Dixie Road & Old School Road

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| Ø2 (R)                                                                              | Ø3                                                                                  | Ø4                                                                                  | Ø5                                                                                  | Ø6 (R)                                                                              | Ø8                                                                                  |
| 61 s                                                                                | 20 s                                                                                | 39 s                                                                                |                                                                                     | 61 s                                                                                | 59 s                                                                                |

# HCM Signalized Intersection Capacity Analysis

## 12: Dixie Road & Old School Road

Future Total 2033 AM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 60                                                                                | 370                                                                               | 75                                                                                | 185                                                                               | 160                                                                               | 10                                                                                | 45                                                                                  | 220                                                                                 | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| Future Volume (vph)               | 60                                                                                | 370                                                                               | 75                                                                                | 185                                                                               | 160                                                                               | 10                                                                                | 45                                                                                  | 220                                                                                 | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1733                                                                              | 1883                                                                              | 1465                                                                              | 1475                                                                              | 1792                                                                              |                                                                                   | 1008                                                                                | 1715                                                                                | 1413                                                                                | 1608                                                                                | 1812                                                                                | 1581                                                                                |
| Flt Permitted                     | 0.65                                                                              | 1.00                                                                              | 1.00                                                                              | 0.18                                                                              | 1.00                                                                              |                                                                                   | 0.29                                                                                | 1.00                                                                                | 1.00                                                                                | 0.60                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1185                                                                              | 1883                                                                              | 1465                                                                              | 274                                                                               | 1792                                                                              |                                                                                   | 304                                                                                 | 1715                                                                                | 1413                                                                                | 1020                                                                                | 1812                                                                                | 1581                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 60                                                                                | 370                                                                               | 75                                                                                | 185                                                                               | 160                                                                               | 10                                                                                | 45                                                                                  | 220                                                                                 | 60                                                                                  | 60                                                                                  | 580                                                                                 | 190                                                                                 |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 58                                                                                | 0                                                                                 | 2                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 30                                                                                  | 0                                                                                   | 0                                                                                   | 92                                                                                  |
| Lane Group Flow (vph)             | 60                                                                                | 370                                                                               | 17                                                                                | 185                                                                               | 168                                                                               | 0                                                                                 | 45                                                                                  | 220                                                                                 | 30                                                                                  | 60                                                                                  | 580                                                                                 | 98                                                                                  |
| Heavy Vehicles (%)                | 3%                                                                                | 2%                                                                                | 9%                                                                                | 21%                                                                               | 6%                                                                                | 10%                                                                               | 77%                                                                                 | 12%                                                                                 | 13%                                                                                 | 11%                                                                                 | 6%                                                                                  | 1%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                | Perm                                                                              | pm+pt                                                                             | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   | 3                                                                                 | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 27.7                                                                              | 27.7                                                                              | 27.7                                                                              | 46.3                                                                              | 46.3                                                                              |                                                                                   | 60.7                                                                                | 60.7                                                                                | 60.7                                                                                | 60.7                                                                                | 60.7                                                                                | 60.7                                                                                |
| Effective Green, g (s)            | 27.7                                                                              | 27.7                                                                              | 27.7                                                                              | 46.3                                                                              | 46.3                                                                              |                                                                                   | 60.7                                                                                | 60.7                                                                                | 60.7                                                                                | 60.7                                                                                | 60.7                                                                                | 60.7                                                                                |
| Actuated g/C Ratio                | 0.23                                                                              | 0.23                                                                              | 0.23                                                                              | 0.39                                                                              | 0.39                                                                              |                                                                                   | 0.51                                                                                | 0.51                                                                                | 0.51                                                                                | 0.51                                                                                | 0.51                                                                                | 0.51                                                                                |
| Clearance Time (s)                | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 4.0                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 273                                                                               | 434                                                                               | 338                                                                               | 251                                                                               | 691                                                                               |                                                                                   | 153                                                                                 | 867                                                                                 | 714                                                                                 | 515                                                                                 | 916                                                                                 | 799                                                                                 |
| v/s Ratio Prot                    |                                                                                   | c0.20                                                                             |                                                                                   | c0.09                                                                             | 0.09                                                                              |                                                                                   |                                                                                     | 0.13                                                                                |                                                                                     |                                                                                     | c0.32                                                                               |                                                                                     |
| v/s Ratio Perm                    | 0.05                                                                              |                                                                                   | 0.01                                                                              | 0.19                                                                              |                                                                                   |                                                                                   | 0.15                                                                                |                                                                                     | 0.02                                                                                | 0.06                                                                                |                                                                                     | 0.06                                                                                |
| v/c Ratio                         | 0.22                                                                              | 0.85                                                                              | 0.05                                                                              | 0.74                                                                              | 0.24                                                                              |                                                                                   | 0.29                                                                                | 0.25                                                                                | 0.04                                                                                | 0.12                                                                                | 0.63                                                                                | 0.12                                                                                |
| Uniform Delay, d1                 | 37.4                                                                              | 44.2                                                                              | 35.9                                                                              | 28.3                                                                              | 25.0                                                                              |                                                                                   | 17.2                                                                                | 16.8                                                                                | 15.0                                                                                | 15.6                                                                                | 21.6                                                                                | 15.6                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.02                                                                              | 0.25                                                                              |                                                                                   | 0.88                                                                                | 0.80                                                                                | 1.53                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 0.4                                                                               | 14.9                                                                              | 0.1                                                                               | 10.7                                                                              | 0.2                                                                               |                                                                                   | 3.8                                                                                 | 0.5                                                                                 | 0.1                                                                                 | 0.5                                                                                 | 3.3                                                                                 | 0.3                                                                                 |
| Delay (s)                         | 37.8                                                                              | 59.1                                                                              | 36.0                                                                              | 39.4                                                                              | 6.5                                                                               |                                                                                   | 19.0                                                                                | 14.1                                                                                | 23.0                                                                                | 16.0                                                                                | 24.9                                                                                | 15.9                                                                                |
| Level of Service                  | D                                                                                 | E                                                                                 | D                                                                                 | D                                                                                 | A                                                                                 |                                                                                   | B                                                                                   | B                                                                                   | C                                                                                   | B                                                                                   | C                                                                                   | B                                                                                   |
| Approach Delay (s)                |                                                                                   | 53.1                                                                              |                                                                                   |                                                                                   | 23.7                                                                              |                                                                                   |                                                                                     | 16.4                                                                                |                                                                                     |                                                                                     | 22.2                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 29.3                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.71                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     |                                                                                     | 17.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 84.0%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# HCM Unsignalized Intersection Capacity Analysis

## 13: 12861 Site Access 2 & Old School Road

Future Total 2033 AM Peak Hour

|                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   |                                                                                    |  |  |                                                                                    |  |                                                                                    |
| Movement                          | EBT                                                                                                                                                                 | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                 | NBL                                                                               | NBR                                                                                                                                                                 |
| Lane Configurations               |   |                                                                                   |                                                                                   |   |                                                                                   |   |
| Traffic Volume (veh/h)            | 445                                                                                                                                                                 | 40                                                                                | 0                                                                                 | 360                                                                                                                                                                 | 0                                                                                 | 5                                                                                                                                                                   |
| Future Volume (Veh/h)             | 445                                                                                                                                                                 | 40                                                                                | 0                                                                                 | 360                                                                                                                                                                 | 0                                                                                 | 5                                                                                                                                                                   |
| Sign Control                      | Free                                                                                                                                                                |                                                                                   |                                                                                   | Free                                                                                                                                                                | Stop                                                                              |                                                                                                                                                                     |
| Grade                             | 0%                                                                                                                                                                  |                                                                                   |                                                                                   | 0%                                                                                                                                                                  | 0%                                                                                |                                                                                                                                                                     |
| Peak Hour Factor                  | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                                                                                                                |
| Hourly flow rate (vph)            | 445                                                                                                                                                                 | 40                                                                                | 0                                                                                 | 360                                                                                                                                                                 | 0                                                                                 | 5                                                                                                                                                                   |
| Pedestrians                       |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Lane Width (m)                    |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Walking Speed (m/s)               |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Percent Blockage                  |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Right turn flare (veh)            |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Median type                       | None                                                                                                                                                                |                                                                                   |                                                                                   | None                                                                                                                                                                |                                                                                   |                                                                                                                                                                     |
| Median storage veh                |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Upstream signal (m)               | 66                                                                                                                                                                  |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| pX, platoon unblocked             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| vC, conflicting volume            |                                                                                                                                                                     |                                                                                   | 485                                                                               |                                                                                                                                                                     | 645                                                                               | 242                                                                                                                                                                 |
| vC1, stage 1 conf vol             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| vC2, stage 2 conf vol             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| vCu, unblocked vol                |                                                                                                                                                                     |                                                                                   | 485                                                                               |                                                                                                                                                                     | 645                                                                               | 242                                                                                                                                                                 |
| tC, single (s)                    |                                                                                                                                                                     |                                                                                   | 4.1                                                                               |                                                                                                                                                                     | 6.8                                                                               | 6.9                                                                                                                                                                 |
| tC, 2 stage (s)                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| tF (s)                            |                                                                                                                                                                     |                                                                                   | 2.2                                                                               |                                                                                                                                                                     | 3.5                                                                               | 3.3                                                                                                                                                                 |
| p0 queue free %                   |                                                                                                                                                                     |                                                                                   | 100                                                                               |                                                                                                                                                                     | 100                                                                               | 99                                                                                                                                                                  |
| cM capacity (veh/h)               |                                                                                                                                                                     |                                                                                   | 1088                                                                              |                                                                                                                                                                     | 409                                                                               | 764                                                                                                                                                                 |
| Direction, Lane #                 | EB 1                                                                                                                                                                | EB 2                                                                              | WB 1                                                                              | WB 2                                                                                                                                                                | NB 1                                                                              |                                                                                                                                                                     |
| Volume Total                      | 297                                                                                                                                                                 | 188                                                                               | 180                                                                               | 180                                                                                                                                                                 | 5                                                                                 |                                                                                                                                                                     |
| Volume Left                       | 0                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                 |                                                                                                                                                                     |
| Volume Right                      | 0                                                                                                                                                                   | 40                                                                                | 0                                                                                 | 0                                                                                                                                                                   | 5                                                                                 |                                                                                                                                                                     |
| cSH                               | 1700                                                                                                                                                                | 1700                                                                              | 1700                                                                              | 1700                                                                                                                                                                | 764                                                                               |                                                                                                                                                                     |
| Volume to Capacity                | 0.17                                                                                                                                                                | 0.11                                                                              | 0.11                                                                              | 0.11                                                                                                                                                                | 0.01                                                                              |                                                                                                                                                                     |
| Queue Length 95th (m)             | 0.0                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                 | 0.2                                                                               |                                                                                                                                                                     |
| Control Delay (s)                 | 0.0                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                 | 9.7                                                                               |                                                                                                                                                                     |
| Lane LOS                          |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     | A                                                                                 |                                                                                                                                                                     |
| Approach Delay (s)                | 0.0                                                                                                                                                                 |                                                                                   | 0.0                                                                               |                                                                                                                                                                     | 9.7                                                                               |                                                                                                                                                                     |
| Approach LOS                      |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     | A                                                                                 |                                                                                                                                                                     |
| Intersection Summary              |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Average Delay                     |                                                                                                                                                                     |                                                                                   | 0.1                                                                               |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Intersection Capacity Utilization |                                                                                                                                                                     |                                                                                   | 23.6%                                                                             |                                                                                                                                                                     | ICU Level of Service                                                              | A                                                                                                                                                                   |
| Analysis Period (min)             |                                                                                                                                                                     |                                                                                   | 15                                                                                |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |

## Queues

### 14: 12861 Site Access 3 & Old School Road

Future Total 2033 AM Peak Hour

|                        | →     | ↘     | ↙      | ←     | ↖     |
|------------------------|-------|-------|--------|-------|-------|
| Lane Group             | EBT   | EBR   | WBL    | WBT   | NBL   |
| Lane Configurations    | ↑↑    | ↑     | ↘      | ↑↑    | ↘     |
| Traffic Volume (vph)   | 445   | 5     | 30     | 295   | 65    |
| Future Volume (vph)    | 445   | 5     | 30     | 295   | 65    |
| Lane Group Flow (vph)  | 445   | 5     | 30     | 295   | 70    |
| Turn Type              | NA    | Perm  | custom | NA    | Prot  |
| Protected Phases       | 4     |       |        |       | 2     |
| Permitted Phases       |       | 4     | 8      | 8     |       |
| Detector Phase         | 4     | 4     | 8      | 8     | 2     |
| Switch Phase           |       |       |        |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0    | 5.0   | 5.0   |
| Minimum Split (s)      | 28.5  | 28.5  | 31.5   | 31.5  | 31.5  |
| Total Split (s)        | 60.0  | 60.0  | 60.0   | 60.0  | 60.0  |
| Total Split (%)        | 50.0% | 50.0% | 50.0%  | 50.0% | 50.0% |
| Yellow Time (s)        | 4.5   | 4.5   | 4.5    | 4.5   | 4.0   |
| All-Red Time (s)       | 2.0   | 2.0   | 2.0    | 2.0   | 2.5   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5    | 6.5   | 6.5   |
| Lead/Lag               |       |       |        |       |       |
| Lead-Lag Optimize?     |       |       |        |       |       |
| Recall Mode            | None  | None  | None   | None  | C-Min |
| v/c Ratio              | 0.72  | 0.04  | 0.37   | 0.47  | 0.09  |
| Control Delay          | 35.9  | 8.2   | 56.0   | 46.8  | 5.7   |
| Queue Delay            | 0.0   | 0.0   | 0.0    | 0.0   | 0.0   |
| Total Delay            | 35.9  | 8.2   | 56.0   | 46.8  | 5.7   |
| Queue Length 50th (m)  | 60.4  | 0.7   | 6.7    | 35.1  | 4.3   |
| Queue Length 95th (m)  | 61.1  | m0.7  | 16.4   | 47.0  | 10.4  |
| Internal Link Dist (m) | 433.3 |       |        | 157.0 | 183.7 |
| Turn Bay Length (m)    |       | 50.0  | 95.0   |       |       |
| Base Capacity (vph)    | 1611  | 358   | 212    | 1627  | 818   |
| Starvation Cap Reductn | 0     | 0     | 0      | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0      | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0      | 0     | 0     |
| Reduced v/c Ratio      | 0.28  | 0.01  | 0.14   | 0.18  | 0.09  |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

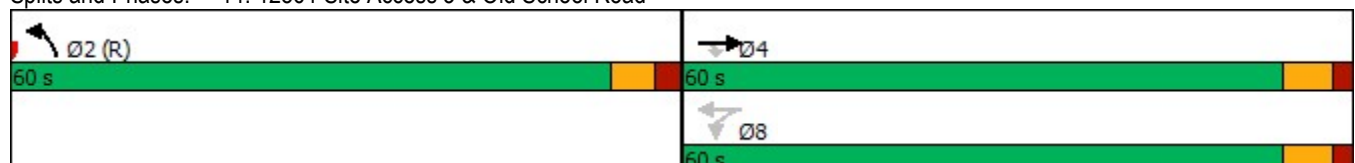
Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: 12861 Site Access 3 & Old School Road



# HCM Signalized Intersection Capacity Analysis

14: 12861 Site Access 3 & Old School Road

Future Total 2033 AM Peak Hour

|                                   | →     | ↘    | ↙      | ←    | ↖                         | ↗    |
|-----------------------------------|-------|------|--------|------|---------------------------|------|
| Movement                          | EBT   | EBR  | WBL    | WBT  | NBL                       | NBR  |
| Lane Configurations               | ↑↑    | ↑    | ↓      | ↑↑   | ↓                         |      |
| Traffic Volume (vph)              | 445   | 5    | 30     | 295  | 65                        | 5    |
| Future Volume (vph)               | 445   | 5    | 30     | 295  | 65                        | 5    |
| Ideal Flow (vphpl)                | 1900  | 1900 | 1900   | 1900 | 1900                      | 1900 |
| Lane Width                        | 3.7   | 3.5  | 3.5    | 3.7  | 3.5                       | 3.5  |
| Total Lost time (s)               | 6.5   | 6.5  | 6.5    | 6.5  | 6.5                       |      |
| Lane Util. Factor                 | 0.95  | 1.00 | 1.00   | 0.95 | 1.00                      |      |
| Frt                               | 1.00  | 0.85 | 1.00   | 1.00 | 0.99                      |      |
| Flt Protected                     | 1.00  | 1.00 | 0.95   | 1.00 | 0.96                      |      |
| Satd. Flow (prot)                 | 3614  | 799  | 1539   | 3650 | 1135                      |      |
| Flt Permitted                     | 1.00  | 1.00 | 0.29   | 1.00 | 0.96                      |      |
| Satd. Flow (perm)                 | 3614  | 799  | 475    | 3650 | 1135                      |      |
| Peak-hour factor, PHF             | 1.00  | 1.00 | 1.00   | 1.00 | 1.00                      | 1.00 |
| Adj. Flow (vph)                   | 445   | 5    | 30     | 295  | 65                        | 5    |
| RTOR Reduction (vph)              | 0     | 4    | 0      | 0    | 1                         | 0    |
| Lane Group Flow (vph)             | 445   | 1    | 30     | 295  | 69                        | 0    |
| Heavy Vehicles (%)                | 1%    | 100% | 16%    | 0%   | 61%                       | 0%   |
| Turn Type                         | NA    | Perm | custom | NA   | Prot                      |      |
| Protected Phases                  | 4     |      |        |      | 2                         |      |
| Permitted Phases                  |       | 4    | 8      | 8    |                           |      |
| Actuated Green, G (s)             | 20.6  | 20.6 | 20.6   | 20.6 | 86.4                      |      |
| Effective Green, g (s)            | 20.6  | 20.6 | 20.6   | 20.6 | 86.4                      |      |
| Actuated g/C Ratio                | 0.17  | 0.17 | 0.17   | 0.17 | 0.72                      |      |
| Clearance Time (s)                | 6.5   | 6.5  | 6.5    | 6.5  | 6.5                       |      |
| Vehicle Extension (s)             | 3.0   | 3.0  | 3.0    | 3.0  | 3.0                       |      |
| Lane Grp Cap (vph)                | 620   | 137  | 81     | 626  | 817                       |      |
| v/s Ratio Prot                    | c0.12 |      |        |      | c0.06                     |      |
| v/s Ratio Perm                    |       | 0.00 | 0.06   | 0.08 |                           |      |
| v/c Ratio                         | 0.72  | 0.01 | 0.37   | 0.47 | 0.08                      |      |
| Uniform Delay, d1                 | 47.0  | 41.2 | 44.0   | 44.8 | 5.0                       |      |
| Progression Factor                | 0.64  | 0.34 | 1.00   | 1.00 | 1.00                      |      |
| Incremental Delay, d2             | 3.3   | 0.0  | 2.8    | 0.6  | 0.2                       |      |
| Delay (s)                         | 33.5  | 14.1 | 46.8   | 45.4 | 5.2                       |      |
| Level of Service                  | C     | B    | D      | D    | A                         |      |
| Approach Delay (s)                | 33.3  |      |        | 45.5 | 5.2                       |      |
| Approach LOS                      | C     |      |        | D    | A                         |      |
| <b>Intersection Summary</b>       |       |      |        |      |                           |      |
| HCM 2000 Control Delay            |       |      | 35.7   |      | HCM 2000 Level of Service | D    |
| HCM 2000 Volume to Capacity ratio |       |      | 0.21   |      |                           |      |
| Actuated Cycle Length (s)         |       |      | 120.0  |      | Sum of lost time (s)      | 13.0 |
| Intersection Capacity Utilization |       |      | 36.9%  |      | ICU Level of Service      | A    |
| Analysis Period (min)             |       |      | 15     |      |                           |      |
| c Critical Lane Group             |       |      |        |      |                           |      |

# HCM Unsignalized Intersection Capacity Analysis

## 15: Bramalea Road & Old School Road

Future Total 2033 AM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 20                                                                                | 340                                                                               | 85                                                                                | 25                                                                                | 225                                                                               | 0                                                                                 | 40                                                                                 | 85                                                                                  | 20                                                                                  | 5                                                                                   | 170                                                                                 | 60                                                                                  |
| Future Volume (vph)               | 20                                                                                | 340                                                                               | 85                                                                                | 25                                                                                | 225                                                                               | 0                                                                                 | 40                                                                                 | 85                                                                                  | 20                                                                                  | 5                                                                                   | 170                                                                                 | 60                                                                                  |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Hourly flow rate (vph)            | 20                                                                                | 340                                                                               | 85                                                                                | 25                                                                                | 225                                                                               | 0                                                                                 | 40                                                                                 | 85                                                                                  | 20                                                                                  | 5                                                                                   | 170                                                                                 | 60                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 445                                                                               | 250                                                                               | 145                                                                               | 235                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 20                                                                                | 25                                                                                | 40                                                                                | 5                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 85                                                                                | 0                                                                                 | 20                                                                                | 60                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | -0.05                                                                             | 0.07                                                                              | 0.06                                                                              | -0.08                                                                             |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 5.6                                                                               | 6.0                                                                               | 6.6                                                                               | 6.2                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.69                                                                              | 0.42                                                                              | 0.26                                                                              | 0.40                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 621                                                                               | 540                                                                               | 469                                                                               | 512                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 20.0                                                                              | 13.3                                                                              | 11.9                                                                              | 13.3                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 20.0                                                                              | 13.3                                                                              | 11.9                                                                              | 13.3                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | B                                                                                 | B                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   |                                                                                   | 15.9                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 58.2%                                                                             | ICU Level of Service                                                              | B                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Queues

## 1: Dixie Road & Mayfield Road

Future Total 2033 PM Peak Hour

|                        |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 575                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 115                                                                               | 210                                                                                 | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| Future Volume (vph)    | 575                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 115                                                                               | 210                                                                                 | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| Lane Group Flow (vph)  | 575                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 115                                                                               | 210                                                                                 | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| Turn Type              | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                               | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases       | 5                                                                                 | 2                                                                                 | 7                                                                                 | 1                                                                                 | 6                                                                                 | 3                                                                                 | 7                                                                                   | 4                                                                                   | 1                                                                                   | 3                                                                                   | 8                                                                                   | 5                                                                                   |
| Permitted Phases       |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                   |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Detector Phase         | 5                                                                                 | 2                                                                                 | 7                                                                                 | 1                                                                                 | 6                                                                                 | 3                                                                                 | 7                                                                                   | 4                                                                                   | 1                                                                                   | 3                                                                                   | 8                                                                                   | 5                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 8.0                                                                               | 5.0                                                                               | 5.0                                                                               | 8.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 8.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 8.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 9.5                                                                               | 44.9                                                                              | 9.5                                                                               | 9.5                                                                               | 44.9                                                                              | 9.5                                                                               | 9.5                                                                                 | 47.9                                                                                | 9.5                                                                                 | 9.5                                                                                 | 47.9                                                                                | 9.5                                                                                 |
| Total Split (s)        | 24.0                                                                              | 63.6                                                                              | 13.1                                                                              | 10.4                                                                              | 50.0                                                                              | 13.1                                                                              | 13.1                                                                                | 47.9                                                                                | 10.4                                                                                | 13.1                                                                                | 47.9                                                                                | 24.0                                                                                |
| Total Split (%)        | 17.8%                                                                             | 47.1%                                                                             | 9.7%                                                                              | 7.7%                                                                              | 37.0%                                                                             | 9.7%                                                                              | 9.7%                                                                                | 35.5%                                                                               | 7.7%                                                                                | 9.7%                                                                                | 35.5%                                                                               | 17.8%                                                                               |
| Yellow Time (s)        | 3.5                                                                               | 4.6                                                                               | 3.5                                                                               | 3.5                                                                               | 4.6                                                                               | 3.5                                                                               | 3.5                                                                                 | 4.6                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 4.6                                                                                 | 3.5                                                                                 |
| All-Red Time (s)       | 1.0                                                                               | 2.3                                                                               | 1.0                                                                               | 1.0                                                                               | 2.3                                                                               | 1.0                                                                               | 1.0                                                                                 | 2.3                                                                                 | 1.0                                                                                 | 1.0                                                                                 | 2.3                                                                                 | 1.0                                                                                 |
| Lost Time Adjust (s)   | -1.0                                                                              | 0.0                                                                               | 0.0                                                                               | -1.0                                                                              | 0.0                                                                               | 0.0                                                                               | -1.0                                                                                | 0.0                                                                                 | 0.0                                                                                 | -1.0                                                                                | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Lead/Lag               | Lead                                                                              | Lag                                                                               | Lead                                                                              | Lead                                                                              | Lag                                                                               | Lead                                                                              | Lead                                                                                | Lag                                                                                 | Lead                                                                                | Lead                                                                                | Lag                                                                                 | Lead                                                                                |
| Lead-Lag Optimize?     | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                               | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 | Yes                                                                                 |
| Recall Mode            | None                                                                              | C-Min                                                                             | None                                                                              | None                                                                              | C-Min                                                                             | None                                                                              | None                                                                                | None                                                                                | None                                                                                | None                                                                                | None                                                                                | None                                                                                |
| v/c Ratio              | 0.71                                                                              | 0.52                                                                              | 0.14                                                                              | 0.29                                                                              | 0.94                                                                              | 0.14                                                                              | 0.86                                                                                | 0.56                                                                                | 0.08                                                                                | 0.78                                                                                | 0.68                                                                                | 0.94                                                                                |
| Control Delay          | 45.8                                                                              | 17.1                                                                              | 0.4                                                                               | 17.7                                                                              | 57.8                                                                              | 6.4                                                                               | 77.2                                                                                | 60.1                                                                                | 1.8                                                                                 | 67.9                                                                                | 64.3                                                                                | 22.3                                                                                |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 45.8                                                                              | 17.1                                                                              | 0.4                                                                               | 17.7                                                                              | 57.8                                                                              | 6.4                                                                               | 77.2                                                                                | 60.1                                                                                | 1.8                                                                                 | 67.9                                                                                | 64.3                                                                                | 22.3                                                                                |
| Queue Length 50th (m)  | 72.5                                                                              | 87.4                                                                              | 0.0                                                                               | 4.8                                                                               | 148.4                                                                             | 7.3                                                                               | 50.9                                                                                | 35.2                                                                                | 0.0                                                                                 | 43.5                                                                                | 42.2                                                                                | 89.3                                                                                |
| Queue Length 95th (m)  | 99.6                                                                              | 112.5                                                                             | 2.3                                                                               | 10.4                                                                              | #179.4                                                                            | 14.4                                                                              | #84.8                                                                               | 48.2                                                                                | 3.6                                                                                 | #68.0                                                                               | 56.4                                                                                | #377.5                                                                              |
| Internal Link Dist (m) |                                                                                   | 980.1                                                                             |                                                                                   |                                                                                   | 272.1                                                                             |                                                                                   |                                                                                     | 844.0                                                                               |                                                                                     |                                                                                     | 481.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 115.0                                                                             |                                                                                   | 75.0                                                                              | 115.0                                                                             |                                                                                   | 110.0                                                                             | 115.0                                                                               |                                                                                     | 65.0                                                                                | 115.0                                                                               |                                                                                     | 135.0                                                                               |
| Base Capacity (vph)    | 814                                                                               | 2861                                                                              | 1264                                                                              | 208                                                                               | 1579                                                                              | 809                                                                               | 243                                                                                 | 1097                                                                                | 710                                                                                 | 231                                                                                 | 1066                                                                                | 1190                                                                                |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.71                                                                              | 0.52                                                                              | 0.14                                                                              | 0.29                                                                              | 0.94                                                                              | 0.14                                                                              | 0.86                                                                                | 0.23                                                                                | 0.08                                                                                | 0.78                                                                                | 0.28                                                                                | 0.94                                                                                |

### Intersection Summary

Cycle Length: 135

Actuated Cycle Length: 135

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

### Splits and Phases: 1: Dixie Road & Mayfield Road

|                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  |  |  |  |  |  |  |  |  |  |  |
| 10.4 s                                                                              | 63.6 s                                                                              |                                                                                     | 13.1 s                                                                              |                                                                                     | 47.9 s                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 24 s                                                                                | 50 s                                                                                |                                                                                     | 13.1 s                                                                              |                                                                                     | 47.9 s                                                                              |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

# HCM Signalized Intersection Capacity Analysis

## 1: Dixie Road & Mayfield Road

Future Total 2033 PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)              | 575                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 115                                                                               | 210                                                                                 | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| Future Volume (vph)               | 575                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 115                                                                               | 210                                                                                 | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                               | 6.9                                                                               | 4.5                                                                               | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 | 3.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Lane Util. Factor                 | 0.97                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                              | 0.91                                                                              | 1.00                                                                              | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 0.98                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 0.98                                                                                | 1.00                                                                                | 1.00                                                                                | 0.99                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 2456                                                                              | 4725                                                                              | 1476                                                                              | 1767                                                                              | 4948                                                                              | 1298                                                                              | 1731                                                                                | 3614                                                                                | 1289                                                                                | 1510                                                                                | 3510                                                                                | 1363                                                                                |
| Flt Permitted                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.16                                                                              | 1.00                                                                              | 1.00                                                                              | 0.43                                                                                | 1.00                                                                                | 1.00                                                                                | 0.52                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 2456                                                                              | 4725                                                                              | 1476                                                                              | 303                                                                               | 4948                                                                              | 1298                                                                              | 792                                                                                 | 3614                                                                                | 1289                                                                                | 820                                                                                 | 3510                                                                                | 1363                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 575                                                                               | 1495                                                                              | 180                                                                               | 60                                                                                | 1485                                                                              | 115                                                                               | 210                                                                                 | 250                                                                                 | 60                                                                                  | 180                                                                                 | 295                                                                                 | 1120                                                                                |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 38                                                                                | 0                                                                                 | 0                                                                                 | 24                                                                                | 0                                                                                   | 0                                                                                   | 31                                                                                  | 0                                                                                   | 0                                                                                   | 64                                                                                  |
| Lane Group Flow (vph)             | 575                                                                               | 1495                                                                              | 142                                                                               | 60                                                                                | 1485                                                                              | 91                                                                                | 210                                                                                 | 250                                                                                 | 29                                                                                  | 180                                                                                 | 295                                                                                 | 1056                                                                                |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   | 10                                                                                | 10                                                                                |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 41%                                                                               | 11%                                                                               | 6%                                                                                | 1%                                                                                | 6%                                                                                | 23%                                                                               | 3%                                                                                  | 1%                                                                                  | 22%                                                                                 | 18%                                                                                 | 4%                                                                                  | 16%                                                                                 |
| Turn Type                         | Prot                                                                              | NA                                                                                | custom                                                                            | pm+pt                                                                             | NA                                                                                | custom                                                                            | pm+pt                                                                               | NA                                                                                  | custom                                                                              | pm+pt                                                                               | NA                                                                                  | custom                                                                              |
| Protected Phases                  | 5                                                                                 | 2                                                                                 | 7                                                                                 | 1                                                                                 | 6                                                                                 | 3                                                                                 | 7                                                                                   | 4                                                                                   | 1                                                                                   | 3                                                                                   | 8                                                                                   | 5                                                                                   |
| Permitted Phases                  |                                                                                   |                                                                                   | 2 4                                                                               | 6                                                                                 |                                                                                   | 6 8                                                                               | 4                                                                                   |                                                                                     | 4 6                                                                                 | 8                                                                                   |                                                                                     | 8 2                                                                                 |
| Actuated Green, G (s)             | 43.7                                                                              | 80.8                                                                              | 106.4                                                                             | 48.7                                                                              | 42.9                                                                              | 68.5                                                                              | 25.6                                                                                | 16.8                                                                                | 65.5                                                                                | 25.6                                                                                | 16.8                                                                                | 107.9                                                                               |
| Effective Green, g (s)            | 44.7                                                                              | 80.8                                                                              | 106.4                                                                             | 50.7                                                                              | 42.9                                                                              | 68.5                                                                              | 27.6                                                                                | 16.8                                                                                | 65.5                                                                                | 27.6                                                                                | 16.8                                                                                | 107.9                                                                               |
| Actuated g/C Ratio                | 0.33                                                                              | 0.60                                                                              | 0.79                                                                              | 0.38                                                                              | 0.32                                                                              | 0.51                                                                              | 0.20                                                                                | 0.12                                                                                | 0.49                                                                                | 0.20                                                                                | 0.12                                                                                | 0.80                                                                                |
| Clearance Time (s)                | 4.5                                                                               | 6.9                                                                               | 4.5                                                                               | 4.5                                                                               | 6.9                                                                               | 4.5                                                                               | 4.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 6.9                                                                                 | 4.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 813                                                                               | 2828                                                                              | 1212                                                                              | 187                                                                               | 1572                                                                              | 701                                                                               | 230                                                                                 | 449                                                                                 | 625                                                                                 | 217                                                                                 | 436                                                                                 | 1089                                                                                |
| v/s Ratio Prot                    | 0.23                                                                              | 0.32                                                                              | 0.01                                                                              | 0.02                                                                              | 0.30                                                                              | 0.01                                                                              | c0.07                                                                               | 0.07                                                                                | 0.00                                                                                | 0.06                                                                                | 0.08                                                                                | c0.31                                                                               |
| v/s Ratio Perm                    |                                                                                   |                                                                                   | 0.09                                                                              | 0.10                                                                              |                                                                                   | 0.06                                                                              | 0.12                                                                                |                                                                                     | 0.02                                                                                | 0.11                                                                                |                                                                                     | 0.46                                                                                |
| v/c Ratio                         | 0.71                                                                              | 0.53                                                                              | 0.12                                                                              | 0.32                                                                              | 0.94                                                                              | 0.13                                                                              | 0.91                                                                                | 0.56                                                                                | 0.05                                                                                | 0.83                                                                                | 0.68                                                                                | 0.97                                                                                |
| Uniform Delay, d1                 | 39.4                                                                              | 15.9                                                                              | 3.3                                                                               | 27.2                                                                              | 44.9                                                                              | 17.5                                                                              | 50.7                                                                                | 55.6                                                                                | 18.3                                                                                | 49.8                                                                                | 56.5                                                                                | 12.1                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 2.8                                                                               | 0.7                                                                               | 0.0                                                                               | 1.0                                                                               | 12.9                                                                              | 0.1                                                                               | 36.4                                                                                | 1.5                                                                                 | 0.0                                                                                 | 22.3                                                                                | 4.1                                                                                 | 20.1                                                                                |
| Delay (s)                         | 42.3                                                                              | 16.6                                                                              | 3.4                                                                               | 28.2                                                                              | 57.8                                                                              | 17.6                                                                              | 87.1                                                                                | 57.1                                                                                | 18.3                                                                                | 72.0                                                                                | 60.6                                                                                | 32.2                                                                                |
| Level of Service                  | D                                                                                 | B                                                                                 | A                                                                                 | C                                                                                 | E                                                                                 | B                                                                                 | F                                                                                   | E                                                                                   | B                                                                                   | E                                                                                   | E                                                                                   | C                                                                                   |
| Approach Delay (s)                |                                                                                   | 22.1                                                                              |                                                                                   |                                                                                   | 53.9                                                                              |                                                                                   |                                                                                     | 64.8                                                                                |                                                                                     |                                                                                     | 41.9                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | E                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 39.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 1.01                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 135.0                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 123.0%                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Queues

## 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

Future Total 2033 PM Peak Hour



| Lane Group             | EBL   | EBR   | WBL   | WBT   | NBL   | NBT   | SBL   | SBT   | SBR   |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations    |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph)   | 45    | 105   | 70    | 0     | 35    | 855   | 5     | 1410  | 10    |
| Future Volume (vph)    | 45    | 105   | 70    | 0     | 35    | 855   | 5     | 1410  | 10    |
| Lane Group Flow (vph)  | 45    | 105   | 70    | 5     | 35    | 870   | 0     | 1415  | 10    |
| Turn Type              | Perm  | Perm  | Perm  | NA    | Perm  | NA    | Perm  | NA    | Perm  |
| Protected Phases       |       |       |       | 8     |       | 2     |       | 6     |       |
| Permitted Phases       | 4     | 4     | 8     |       | 2     |       | 6     |       | 6     |
| Detector Phase         | 4     | 4     | 8     | 8     | 2     | 2     | 6     | 6     | 6     |
| Switch Phase           |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)      | 39.0  | 39.0  | 39.0  | 39.0  | 31.0  | 31.0  | 31.0  | 31.0  | 31.0  |
| Total Split (s)        | 42.0  | 42.0  | 42.0  | 42.0  | 78.0  | 78.0  | 78.0  | 78.0  | 78.0  |
| Total Split (%)        | 35.0% | 35.0% | 35.0% | 35.0% | 65.0% | 65.0% | 65.0% | 65.0% | 65.0% |
| Yellow Time (s)        | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| All-Red Time (s)       | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   | 3.0   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   |       | 6.0   | 6.0   |
| Lead/Lag               |       |       |       |       |       |       |       |       |       |
| Lead-Lag Optimize?     |       |       |       |       |       |       |       |       |       |
| Recall Mode            | None  | None  | None  | None  | C-Max | C-Max | C-Max | C-Max | C-Max |
| v/c Ratio              | 0.30  | 0.52  | 0.59  | 0.02  | 0.16  | 0.38  |       | 0.59  | 0.01  |
| Control Delay          | 52.3  | 37.6  | 69.2  | 0.0   | 6.0   | 4.6   |       | 5.9   | 0.4   |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |       | 0.0   | 0.0   |
| Total Delay            | 52.3  | 37.6  | 69.2  | 0.0   | 6.0   | 4.6   |       | 5.9   | 0.4   |
| Queue Length 50th (m)  | 10.5  | 14.0  | 16.8  | 0.0   | 1.7   | 27.4  |       | 74.9  | 0.0   |
| Queue Length 95th (m)  | 21.4  | 30.7  | 31.3  | 0.0   | 6.3   | 46.6  |       | m39.5 | m0.0  |
| Internal Link Dist (m) |       |       |       | 96.6  |       | 481.5 |       | 358.1 |       |
| Turn Bay Length (m)    | 15.0  | 15.0  | 15.0  |       | 70.0  |       |       |       | 65.0  |
| Base Capacity (vph)    | 425   | 487   | 333   | 607   | 213   | 2286  |       | 2415  | 1230  |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     | 0     | 0     |       | 0     | 0     |
| Reduced v/c Ratio      | 0.11  | 0.22  | 0.21  | 0.01  | 0.16  | 0.38  |       | 0.59  | 0.01  |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

### Splits and Phases: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3



# HCM Signalized Intersection Capacity Analysis

## 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

Future Total 2033 PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |   |  |                                                                                     |                                                                                     |  |  |
| Traffic Volume (vph)              | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 855                                                                                 | 15                                                                                  | 5                                                                                   | 1410                                                                                | 10                                                                                  |
| Future Volume (vph)               | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 855                                                                                 | 15                                                                                  | 5                                                                                   | 1410                                                                                | 10                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.97                                                                                |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              |                                                                                   | 0.85                                                                              | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              |                                                                                   | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              |                                                                                   | 1521                                                                              | 1394                                                                              | 1633                                                                              |                                                                                   | 1537                                                                                | 2887                                                                                |                                                                                     |                                                                                     | 3203                                                                                | 1546                                                                                |
| Flt Permitted                     | 0.75                                                                              |                                                                                   | 1.00                                                                              | 0.76                                                                              | 1.00                                                                              |                                                                                   | 0.17                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 0.95                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1418                                                                              |                                                                                   | 1521                                                                              | 1111                                                                              | 1633                                                                              |                                                                                   | 269                                                                                 | 2887                                                                                |                                                                                     |                                                                                     | 3051                                                                                | 1546                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 45                                                                                | 0                                                                                 | 105                                                                               | 70                                                                                | 0                                                                                 | 5                                                                                 | 35                                                                                  | 855                                                                                 | 15                                                                                  | 5                                                                                   | 1410                                                                                | 10                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 40                                                                                | 0                                                                                 | 4                                                                                 | 0                                                                                 | 0                                                                                   | 1                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 2                                                                                   |
| Lane Group Flow (vph)             | 45                                                                                | 0                                                                                 | 65                                                                                | 70                                                                                | 1                                                                                 | 0                                                                                 | 35                                                                                  | 869                                                                                 | 0                                                                                   | 0                                                                                   | 1415                                                                                | 8                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 5                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | 5                                                                                   |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 5%                                                                                | 28%                                                                               | 0%                                                                                | 0%                                                                                | 16%                                                                                 | 26%                                                                                 | 33%                                                                                 | 0%                                                                                  | 14%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  |                                                                                     | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 12.9                                                                              |                                                                                   | 12.9                                                                              | 12.9                                                                              | 12.9                                                                              |                                                                                   | 95.1                                                                                | 95.1                                                                                |                                                                                     |                                                                                     | 95.1                                                                                | 95.1                                                                                |
| Effective Green, g (s)            | 12.9                                                                              |                                                                                   | 12.9                                                                              | 12.9                                                                              | 12.9                                                                              |                                                                                   | 95.1                                                                                | 95.1                                                                                |                                                                                     |                                                                                     | 95.1                                                                                | 95.1                                                                                |
| Actuated g/C Ratio                | 0.11                                                                              |                                                                                   | 0.11                                                                              | 0.11                                                                              | 0.11                                                                              |                                                                                   | 0.79                                                                                | 0.79                                                                                |                                                                                     |                                                                                     | 0.79                                                                                | 0.79                                                                                |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 | 6.0                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 152                                                                               |                                                                                   | 163                                                                               | 119                                                                               | 175                                                                               |                                                                                   | 213                                                                                 | 2287                                                                                |                                                                                     |                                                                                     | 2417                                                                                | 1225                                                                                |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              |                                                                                   |                                                                                     | 0.30                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/s Ratio Perm                    | 0.03                                                                              |                                                                                   | 0.04                                                                              | 0.06                                                                              |                                                                                   |                                                                                   | 0.13                                                                                |                                                                                     |                                                                                     |                                                                                     | 0.46                                                                                | 0.01                                                                                |
| v/c Ratio                         | 0.30                                                                              |                                                                                   | 0.40                                                                              | 0.59                                                                              | 0.00                                                                              |                                                                                   | 0.16                                                                                | 0.38                                                                                |                                                                                     |                                                                                     | 0.59                                                                                | 0.01                                                                                |
| Uniform Delay, d1                 | 49.4                                                                              |                                                                                   | 49.9                                                                              | 51.0                                                                              | 47.8                                                                              |                                                                                   | 3.0                                                                                 | 3.7                                                                                 |                                                                                     |                                                                                     | 4.8                                                                                 | 2.6                                                                                 |
| Progression Factor                | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                | 1.16                                                                                |
| Incremental Delay, d2             | 1.1                                                                               |                                                                                   | 1.6                                                                               | 7.2                                                                               | 0.0                                                                               |                                                                                   | 1.7                                                                                 | 0.5                                                                                 |                                                                                     |                                                                                     | 0.4                                                                                 | 0.0                                                                                 |
| Delay (s)                         | 50.5                                                                              |                                                                                   | 51.5                                                                              | 58.3                                                                              | 47.8                                                                              |                                                                                   | 4.6                                                                                 | 4.2                                                                                 |                                                                                     |                                                                                     | 5.2                                                                                 | 3.0                                                                                 |
| Level of Service                  | D                                                                                 |                                                                                   | D                                                                                 | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 51.2                                                                              |                                                                                   |                                                                                   | 57.6                                                                              |                                                                                   |                                                                                     | 4.2                                                                                 |                                                                                     |                                                                                     | 5.2                                                                                 |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 9.1                                                                               |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                           |                                                                                     |                                                                                     |                                                                                     | A                                                                                   |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.59                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                                |                                                                                     |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 64.8%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                                |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



## Queues

### 7: Dixie Road & UPS Facility Access/12173 West Access 1

Future Total 2033 PM Peak Hour



| Lane Group             | EBL   | WBR   | NBL   | NBT     | SBT   |
|------------------------|-------|-------|-------|---------|-------|
| Lane Configurations    |       |       |       |         |       |
| Traffic Volume (vph)   | 5     | 10    | 35    | 840     | 1445  |
| Future Volume (vph)    | 5     | 10    | 35    | 840     | 1445  |
| Lane Group Flow (vph)  | 5     | 10    | 35    | 845     | 1465  |
| Turn Type              | Perm  | Perm  | Perm  | NA      | NA    |
| Protected Phases       |       |       |       | 2       | 6     |
| Permitted Phases       | 4     | 8     | 2     |         |       |
| Detector Phase         | 4     | 8     | 2     | 2       | 6     |
| Switch Phase           |       |       |       |         |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0     | 5.0   |
| Minimum Split (s)      | 39.0  | 39.0  | 31.0  | 31.0    | 31.0  |
| Total Split (s)        | 39.0  | 39.0  | 81.0  | 81.0    | 81.0  |
| Total Split (%)        | 32.5% | 32.5% | 67.5% | 67.5%   | 67.5% |
| Yellow Time (s)        | 3.0   | 3.0   | 3.0   | 3.0     | 3.0   |
| All-Red Time (s)       | 3.0   | 3.0   | 3.0   | 3.0     | 3.0   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0   |
| Total Lost Time (s)    | 6.0   | 6.0   | 6.0   | 6.0     | 6.0   |
| Lead/Lag               |       |       |       |         |       |
| Lead-Lag Optimize?     |       |       |       |         |       |
| Recall Mode            | None  | None  | C-Max | C-Max   | C-Max |
| v/c Ratio              | 0.06  | 0.04  | 0.20  | 0.31    | 0.91  |
| Control Delay          | 55.4  | 0.3   | 3.2   | 0.7     | 14.1  |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0     | 0.0   |
| Total Delay            | 55.4  | 0.3   | 3.2   | 0.7     | 14.1  |
| Queue Length 50th (m)  | 1.2   | 0.0   | 0.0   | 0.0     | 172.5 |
| Queue Length 95th (m)  | 5.6   | 0.0   | 2.1   | 13.6 m# | 456.1 |
| Internal Link Dist (m) |       |       |       | 358.1   | 696.2 |
| Turn Bay Length (m)    |       |       |       |         |       |
| Base Capacity (vph)    | 490   | 571   | 175   | 2729    | 1609  |
| Starvation Cap Reductn | 0     | 0     | 0     | 0       | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0       | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0       | 0     |
| Reduced v/c Ratio      | 0.01  | 0.02  | 0.20  | 0.31    | 0.91  |

#### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 150

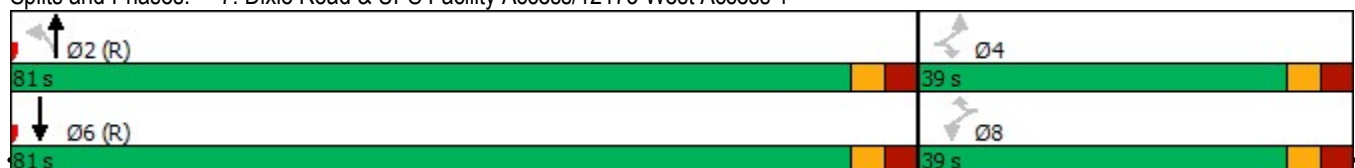
Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Dixie Road & UPS Facility Access/12173 West Access 1



Tribal Lands Dixie

Synchro 11 Report  
FT\_2033.syn

# HCM Signalized Intersection Capacity Analysis

## 7: Dixie Road & UPS Facility Access/12173 West Access 1

Future Total 2033 PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |   |  |                                                                                     |                                                                                     |  |                                                                                     |
| Traffic Volume (vph)              | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 840                                                                                 | 5                                                                                   | 0                                                                                   | 1445                                                                                | 20                                                                                  |
| Future Volume (vph)               | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 840                                                                                 | 5                                                                                   | 0                                                                                   | 1445                                                                                | 20                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Lane Util. Factor                 | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                                | 0.95                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frpb, ped/bikes                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flpb, ped/bikes                   | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Frt                               | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.85                                                                              | 1.00                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Flt Protected                     | 0.95                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 0.95                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (prot)                 | 1785                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1597                                                                              | 1750                                                                                | 2817                                                                                |                                                                                     |                                                                                     | 1661                                                                                |                                                                                     |
| Flt Permitted                     | 0.95                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 0.10                                                                                | 1.00                                                                                |                                                                                     |                                                                                     | 1.00                                                                                |                                                                                     |
| Satd. Flow (perm)                 | 1785                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1597                                                                              | 181                                                                                 | 2817                                                                                |                                                                                     |                                                                                     | 1661                                                                                |                                                                                     |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 35                                                                                  | 840                                                                                 | 5                                                                                   | 0                                                                                   | 1445                                                                                | 20                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 10                                                                                | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Lane Group Flow (vph)             | 5                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 35                                                                                  | 845                                                                                 | 0                                                                                   | 0                                                                                   | 1465                                                                                | 0                                                                                   |
| Confl. Peds. (#/hr)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 10                                                                                  |                                                                                     | 5                                                                                   | 5                                                                                   |                                                                                     | 10                                                                                  |
| Heavy Vehicles (%)                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 0%                                                                                | 2%                                                                                  | 29%                                                                                 | 100%                                                                                | 0%                                                                                  | 13%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                              |                                                                                   | Perm                                                                              | Perm                                                                                | NA                                                                                  |                                                                                     |                                                                                     | NA                                                                                  |                                                                                     |
| Protected Phases                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 8                                                                                 | 2                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Green, G (s)             | 1.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.4                                                                               | 106.6                                                                               | 106.6                                                                               |                                                                                     |                                                                                     | 106.6                                                                               |                                                                                     |
| Effective Green, g (s)            | 1.4                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.4                                                                               | 106.6                                                                               | 106.6                                                                               |                                                                                     |                                                                                     | 106.6                                                                               |                                                                                     |
| Actuated g/C Ratio                | 0.01                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.01                                                                              | 0.89                                                                                | 0.89                                                                                |                                                                                     |                                                                                     | 0.89                                                                                |                                                                                     |
| Clearance Time (s)                | 6.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 6.0                                                                               | 6.0                                                                                 | 6.0                                                                                 |                                                                                     |                                                                                     | 6.0                                                                                 |                                                                                     |
| Vehicle Extension (s)             | 3.0                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 3.0                                                                               | 3.0                                                                                 | 3.0                                                                                 |                                                                                     |                                                                                     | 3.0                                                                                 |                                                                                     |
| Lane Grp Cap (vph)                | 20                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 18                                                                                | 160                                                                                 | 2502                                                                                |                                                                                     |                                                                                     | 1475                                                                                |                                                                                     |
| v/s Ratio Prot                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | 0.30                                                                                |                                                                                     |                                                                                     | c0.88                                                                               |                                                                                     |
| v/s Ratio Perm                    | c0.00                                                                             |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.00                                                                              | 0.19                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| v/c Ratio                         | 0.25                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.01                                                                              | 0.22                                                                                | 0.34                                                                                |                                                                                     |                                                                                     | 0.99                                                                                |                                                                                     |
| Uniform Delay, d1                 | 58.8                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 58.6                                                                              | 0.9                                                                                 | 1.1                                                                                 |                                                                                     |                                                                                     | 6.4                                                                                 |                                                                                     |
| Progression Factor                | 1.00                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 1.00                                                                              | 0.76                                                                                | 0.67                                                                                |                                                                                     |                                                                                     | 3.16                                                                                |                                                                                     |
| Incremental Delay, d2             | 6.5                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 0.1                                                                               | 3.0                                                                                 | 0.3                                                                                 |                                                                                     |                                                                                     | 16.2                                                                                |                                                                                     |
| Delay (s)                         | 65.3                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 58.8                                                                              | 3.7                                                                                 | 1.1                                                                                 |                                                                                     |                                                                                     | 36.3                                                                                |                                                                                     |
| Level of Service                  | E                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   | E                                                                                 | A                                                                                   | A                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| Approach Delay (s)                |                                                                                   | 65.3                                                                              |                                                                                   |                                                                                   | 58.8                                                                              |                                                                                   |                                                                                     | 1.2                                                                                 |                                                                                     |                                                                                     | 36.3                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | E                                                                                 |                                                                                   |                                                                                   | E                                                                                 |                                                                                   |                                                                                     | A                                                                                   |                                                                                     |                                                                                     | D                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   | 23.3                                                                              |                                                                                   |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   | 0.98                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     | 12.0                                                                                |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   | 88.9%                                                                             |                                                                                   |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     | E                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 8: Dixie Road & 12489 Site Access 1

Future Total 2033 PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |  |                                                                                   |  |  |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 0                                                                                 | 835                                                                               | 10                                                                                | 0                                                                                 | 1370                                                                              |
| Future Volume (Veh/h)             | 0                                                                                 | 0                                                                                 | 835                                                                               | 10                                                                                | 0                                                                                 | 1370                                                                              |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 0                                                                                 | 835                                                                               | 10                                                                                | 0                                                                                 | 1370                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 394                                                                               |
| pX, platoon unblocked             | 0.25                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 2205                                                                              | 835                                                                               |                                                                                   |                                                                                   | 845                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 4289                                                                              | 835                                                                               |                                                                                   |                                                                                   | 845                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.2                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.3                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 100                                                                               |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 1                                                                                 | 371                                                                               |                                                                                   |                                                                                   | 800                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | NB 2                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |
| Volume Total                      | 0                                                                                 | 835                                                                               | 10                                                                                | 1370                                                                              |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |
| Volume Right                      | 0                                                                                 | 0                                                                                 | 10                                                                                | 0                                                                                 |                                                                                   |                                                                                   |
| cSH                               | 1700                                                                              | 1700                                                                              | 1700                                                                              | 800                                                                               |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.00                                                                              | 0.49                                                                              | 0.01                                                                              | 0.00                                                                              |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Control Delay (s)                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |
| Lane LOS                          | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 0.0                                                                               | 0.0                                                                               |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |
| Approach LOS                      | A                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 82.1%                                                                             |                                                                                   | ICU Level of Service                                                              | E                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

## Queues

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

Future Total 2033 PM Peak Hour

|                        |  |  |  |  |  |  |   |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                               | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 35                                                                                | 0                                                                                 | 90                                                                                | 0                                                                                 | 20                                                                                | 790                                                                               | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| Future Volume (vph)    | 35                                                                                | 0                                                                                 | 90                                                                                | 0                                                                                 | 20                                                                                | 790                                                                               | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| Lane Group Flow (vph)  | 35                                                                                | 55                                                                                | 90                                                                                | 55                                                                                | 20                                                                                | 790                                                                               | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| Turn Type              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       |                                                                                   | 4                                                                                 |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                   | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                 | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                |
| Total Split (s)        | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 39.0                                                                              | 81.0                                                                              | 81.0                                                                              | 81.0                                                                                | 81.0                                                                                | 81.0                                                                                | 81.0                                                                                |
| Total Split (%)        | 32.5%                                                                             | 32.5%                                                                             | 32.5%                                                                             | 32.5%                                                                             | 67.5%                                                                             | 67.5%                                                                             | 67.5%                                                                               | 67.5%                                                                               | 67.5%                                                                               | 67.5%                                                                               |
| Yellow Time (s)        | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                             | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.23                                                                              | 0.23                                                                              | 0.66                                                                              | 0.15                                                                              | 0.21                                                                              | 0.67                                                                              | 0.04                                                                                | 0.06                                                                                | 0.93                                                                                | 0.00                                                                                |
| Control Delay          | 47.6                                                                              | 6.5                                                                               | 70.6                                                                              | 0.9                                                                               | 11.1                                                                              | 12.9                                                                              | 1.6                                                                                 | 4.4                                                                                 | 23.5                                                                                | 0.0                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 47.6                                                                              | 6.5                                                                               | 70.6                                                                              | 0.9                                                                               | 11.1                                                                              | 12.9                                                                              | 1.6                                                                                 | 4.4                                                                                 | 23.5                                                                                | 0.0                                                                                 |
| Queue Length 50th (m)  | 7.9                                                                               | 0.0                                                                               | 21.5                                                                              | 0.0                                                                               | 1.1                                                                               | 72.8                                                                              | 0.0                                                                                 | 0.6                                                                                 | 176.7                                                                               | 0.0                                                                                 |
| Queue Length 95th (m)  | 17.1                                                                              | 6.6                                                                               | 37.5                                                                              | 0.0                                                                               | 5.1                                                                               | 141.0                                                                             | 2.3                                                                                 | m2.4                                                                                | #409.1                                                                              | m0.0                                                                                |
| Internal Link Dist (m) |                                                                                   | 161.0                                                                             |                                                                                   | 124.2                                                                             |                                                                                   | 369.7                                                                             |                                                                                     |                                                                                     | 813.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 20.0                                                                              |                                                                                   | 20.0                                                                              |                                                                                   | 60.0                                                                              |                                                                                   | 60.0                                                                                | 60.0                                                                                |                                                                                     | 60.0                                                                                |
| Base Capacity (vph)    | 326                                                                               | 410                                                                               | 288                                                                               | 529                                                                               | 94                                                                                | 1176                                                                              | 685                                                                                 | 264                                                                                 | 1324                                                                                | 1228                                                                                |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.11                                                                              | 0.13                                                                              | 0.31                                                                              | 0.10                                                                              | 0.21                                                                              | 0.67                                                                              | 0.04                                                                                | 0.06                                                                                | 0.93                                                                                | 0.00                                                                                |

## Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

# 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2



Tribal Lands Dixie

Synchro 11 Report  
FT\_2033.syn

# HCM Signalized Intersection Capacity Analysis

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

Future Total 2033 PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |                                                                                   |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 35                                                                                | 0                                                                                 | 55                                                                                | 90                                                                                | 0                                                                                 | 55                                                                                | 20                                                                                  | 790                                                                                 | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| Future Volume (vph)               | 35                                                                                | 0                                                                                 | 55                                                                                | 90                                                                                | 0                                                                                 | 55                                                                                | 20                                                                                  | 790                                                                                 | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.0                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                              | 0.85                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1566                                                                              | 1286                                                                              |                                                                                   | 1381                                                                              | 1384                                                                              |                                                                                   | 1190                                                                                | 1537                                                                                | 887                                                                                 | 1075                                                                                | 1731                                                                                | 1597                                                                                |
| Flt Permitted                     | 0.72                                                                              | 1.00                                                                              |                                                                                   | 0.72                                                                              | 1.00                                                                              |                                                                                   | 0.10                                                                                | 1.00                                                                                | 1.00                                                                                | 0.30                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 1189                                                                              | 1286                                                                              |                                                                                   | 1048                                                                              | 1384                                                                              |                                                                                   | 124                                                                                 | 1537                                                                                | 887                                                                                 | 345                                                                                 | 1731                                                                                | 1597                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 35                                                                                | 0                                                                                 | 55                                                                                | 90                                                                                | 0                                                                                 | 55                                                                                | 20                                                                                  | 790                                                                                 | 25                                                                                  | 15                                                                                  | 1230                                                                                | 5                                                                                   |
| RTOR Reduction (vph)              | 0                                                                                 | 48                                                                                | 0                                                                                 | 0                                                                                 | 48                                                                                | 0                                                                                 | 0                                                                                   | 0                                                                                   | 6                                                                                   | 0                                                                                   | 0                                                                                   | 1                                                                                   |
| Lane Group Flow (vph)             | 35                                                                                | 7                                                                                 | 0                                                                                 | 90                                                                                | 7                                                                                 | 0                                                                                 | 20                                                                                  | 790                                                                                 | 19                                                                                  | 15                                                                                  | 1230                                                                                | 4                                                                                   |
| Heavy Vehicles (%)                | 14%                                                                               | 0%                                                                                | 27%                                                                               | 22%                                                                               | 0%                                                                                | 18%                                                                               | 50%                                                                                 | 25%                                                                                 | 80%                                                                                 | 66%                                                                                 | 11%                                                                                 | 0%                                                                                  |
| Turn Type                         | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  |                                                                                   | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 15.7                                                                              | 15.7                                                                              |                                                                                   | 15.7                                                                              | 15.7                                                                              |                                                                                   | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                |
| Effective Green, g (s)            | 15.7                                                                              | 15.7                                                                              |                                                                                   | 15.7                                                                              | 15.7                                                                              |                                                                                   | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                | 91.8                                                                                |
| Actuated g/C Ratio                | 0.13                                                                              | 0.13                                                                              |                                                                                   | 0.13                                                                              | 0.13                                                                              |                                                                                   | 0.76                                                                                | 0.76                                                                                | 0.76                                                                                | 0.76                                                                                | 0.76                                                                                | 0.76                                                                                |
| Clearance Time (s)                | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.0                                                                               | 6.0                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 155                                                                               | 168                                                                               |                                                                                   | 137                                                                               | 181                                                                               |                                                                                   | 94                                                                                  | 1175                                                                                | 678                                                                                 | 263                                                                                 | 1324                                                                                | 1221                                                                                |
| v/s Ratio Prot                    |                                                                                   | 0.01                                                                              |                                                                                   |                                                                                   | 0.01                                                                              |                                                                                   |                                                                                     | 0.51                                                                                |                                                                                     |                                                                                     | c0.71                                                                               |                                                                                     |
| v/s Ratio Perm                    | 0.03                                                                              |                                                                                   |                                                                                   | c0.09                                                                             |                                                                                   |                                                                                   | 0.16                                                                                |                                                                                     | 0.02                                                                                | 0.04                                                                                |                                                                                     | 0.00                                                                                |
| v/c Ratio                         | 0.23                                                                              | 0.04                                                                              |                                                                                   | 0.66                                                                              | 0.04                                                                              |                                                                                   | 0.21                                                                                | 0.67                                                                                | 0.03                                                                                | 0.06                                                                                | 0.93                                                                                | 0.00                                                                                |
| Uniform Delay, d1                 | 46.7                                                                              | 45.6                                                                              |                                                                                   | 49.6                                                                              | 45.6                                                                              |                                                                                   | 4.0                                                                                 | 6.8                                                                                 | 3.4                                                                                 | 3.5                                                                                 | 11.5                                                                                | 3.3                                                                                 |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                              | 1.00                                                                              |                                                                                   | 0.93                                                                                | 1.17                                                                                | 0.90                                                                                | 0.80                                                                                | 0.70                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 0.7                                                                               | 0.1                                                                               |                                                                                   | 10.8                                                                              | 0.1                                                                               |                                                                                   | 4.9                                                                                 | 3.0                                                                                 | 0.1                                                                                 | 0.4                                                                                 | 12.6                                                                                | 0.0                                                                                 |
| Delay (s)                         | 47.5                                                                              | 45.7                                                                              |                                                                                   | 60.4                                                                              | 45.7                                                                              |                                                                                   | 8.6                                                                                 | 11.0                                                                                | 3.1                                                                                 | 3.2                                                                                 | 20.7                                                                                | 3.3                                                                                 |
| Level of Service                  | D                                                                                 | D                                                                                 |                                                                                   | E                                                                                 | D                                                                                 |                                                                                   | A                                                                                   | B                                                                                   | A                                                                                   | A                                                                                   | C                                                                                   | A                                                                                   |
| Approach Delay (s)                |                                                                                   | 46.4                                                                              |                                                                                   |                                                                                   | 54.8                                                                              |                                                                                   |                                                                                     | 10.7                                                                                |                                                                                     |                                                                                     | 20.4                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | D                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | B                                                                                   |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 20.1                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.89                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 12.5                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 86.8%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# HCM Unsignalized Intersection Capacity Analysis

## 11: Dixie Road & 12861 Site Access 1

Future Total 2033 PM Peak Hour

|                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                                   |  |  |  |  |  |  |
| Movement                          | WBL                                                                               | WBR                                                                               | NBT                                                                               | NBR                                                                               | SBL                                                                               | SBT                                                                               |
| Lane Configurations               |                                                                                   |  |  |                                                                                   |                                                                                   |  |
| Traffic Volume (veh/h)            | 0                                                                                 | 45                                                                                | 830                                                                               | 50                                                                                | 0                                                                                 | 1250                                                                              |
| Future Volume (Veh/h)             | 0                                                                                 | 45                                                                                | 830                                                                               | 50                                                                                | 0                                                                                 | 1250                                                                              |
| Sign Control                      | Stop                                                                              |                                                                                   | Free                                                                              |                                                                                   |                                                                                   | Free                                                                              |
| Grade                             | 0%                                                                                |                                                                                   | 0%                                                                                |                                                                                   |                                                                                   | 0%                                                                                |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |
| Hourly flow rate (vph)            | 0                                                                                 | 45                                                                                | 830                                                                               | 50                                                                                | 0                                                                                 | 1250                                                                              |
| Pedestrians                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Lane Width (m)                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Walking Speed (m/s)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Percent Blockage                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Right turn flare (veh)            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Median type                       |                                                                                   |                                                                                   | None                                                                              |                                                                                   |                                                                                   | None                                                                              |
| Median storage veh                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Upstream signal (m)               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | 240                                                                               |
| pX, platoon unblocked             | 0.80                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC, conflicting volume            | 2105                                                                              | 855                                                                               |                                                                                   |                                                                                   | 880                                                                               |                                                                                   |
| vC1, stage 1 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vC2, stage 2 conf vol             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| vCu, unblocked vol                | 2261                                                                              | 855                                                                               |                                                                                   |                                                                                   | 880                                                                               |                                                                                   |
| tC, single (s)                    | 6.4                                                                               | 6.3                                                                               |                                                                                   |                                                                                   | 4.1                                                                               |                                                                                   |
| tC, 2 stage (s)                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| tF (s)                            | 3.5                                                                               | 3.4                                                                               |                                                                                   |                                                                                   | 2.2                                                                               |                                                                                   |
| p0 queue free %                   | 100                                                                               | 87                                                                                |                                                                                   |                                                                                   | 100                                                                               |                                                                                   |
| cM capacity (veh/h)               | 36                                                                                | 345                                                                               |                                                                                   |                                                                                   | 777                                                                               |                                                                                   |
| Direction, Lane #                 | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Total                      | 45                                                                                | 880                                                                               | 1250                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume Left                       | 0                                                                                 | 0                                                                                 | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| Volume Right                      | 45                                                                                | 50                                                                                | 0                                                                                 |                                                                                   |                                                                                   |                                                                                   |
| cSH                               | 345                                                                               | 1700                                                                              | 1700                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Volume to Capacity                | 0.13                                                                              | 0.52                                                                              | 0.74                                                                              |                                                                                   |                                                                                   |                                                                                   |
| Queue Length 95th (m)             | 3.6                                                                               | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Control Delay (s)                 | 17.0                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Lane LOS                          | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Approach Delay (s)                | 17.0                                                                              | 0.0                                                                               | 0.0                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Approach LOS                      | C                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| Average Delay                     |                                                                                   |                                                                                   | 0.4                                                                               |                                                                                   |                                                                                   |                                                                                   |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 69.1%                                                                             | ICU Level of Service                                                              |                                                                                   | C                                                                                 |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |

# Queues

## 12: Dixie Road & Old School Road

Future Total 2033 PM Peak Hour

|                        |  |  |  |  |  |  |   |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Lane Group             | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | NBL                                                                               | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations    |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (vph)   | 130                                                                               | 160                                                                               | 105                                                                               | 200                                                                               | 385                                                                               | 90                                                                                | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| Future Volume (vph)    | 130                                                                               | 160                                                                               | 105                                                                               | 200                                                                               | 385                                                                               | 90                                                                                | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| Lane Group Flow (vph)  | 130                                                                               | 160                                                                               | 105                                                                               | 200                                                                               | 400                                                                               | 90                                                                                | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| Turn Type              | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                | Perm                                                                              | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases       | 7                                                                                 | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases       | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   | 2                                                                                 |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Detector Phase         | 7                                                                                 | 4                                                                                 | 4                                                                                 | 8                                                                                 | 8                                                                                 | 2                                                                                 | 2                                                                                   | 2                                                                                   | 6                                                                                   | 6                                                                                   | 6                                                                                   |
| Switch Phase           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Minimum Initial (s)    | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                               | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 | 5.0                                                                                 |
| Minimum Split (s)      | 9.5                                                                               | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                              | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                | 31.5                                                                                |
| Total Split (s)        | 13.7                                                                              | 58.7                                                                              | 58.7                                                                              | 45.0                                                                              | 45.0                                                                              | 61.3                                                                              | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                | 61.3                                                                                |
| Total Split (%)        | 11.4%                                                                             | 48.9%                                                                             | 48.9%                                                                             | 37.5%                                                                             | 37.5%                                                                             | 51.1%                                                                             | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               | 51.1%                                                                               |
| Yellow Time (s)        | 3.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.0                                                                               | 4.5                                                                               | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 | 4.5                                                                                 |
| All-Red Time (s)       | 1.0                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.5                                                                               | 2.0                                                                               | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 | 2.0                                                                                 |
| Lost Time Adjust (s)   | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Lost Time (s)    | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lead/Lag               | Lead                                                                              |                                                                                   |                                                                                   | Lag                                                                               | Lag                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Lead-Lag Optimize?     | Yes                                                                               |                                                                                   |                                                                                   | Yes                                                                               | Yes                                                                               |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Recall Mode            | None                                                                              | None                                                                              | None                                                                              | None                                                                              | None                                                                              | C-Max                                                                             | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               | C-Max                                                                               |
| v/c Ratio              | 0.54                                                                              | 0.24                                                                              | 0.16                                                                              | 0.77                                                                              | 0.83                                                                              | 0.31                                                                              | 0.59                                                                                | 0.14                                                                                | 0.10                                                                                | 0.36                                                                                | 0.08                                                                                |
| Control Delay          | 31.7                                                                              | 26.1                                                                              | 4.5                                                                               | 48.3                                                                              | 44.1                                                                              | 22.7                                                                              | 23.4                                                                                | 8.9                                                                                 | 18.8                                                                                | 19.4                                                                                | 4.2                                                                                 |
| Queue Delay            | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 | 0.0                                                                                 |
| Total Delay            | 31.7                                                                              | 26.1                                                                              | 4.5                                                                               | 48.3                                                                              | 44.1                                                                              | 22.7                                                                              | 23.4                                                                                | 8.9                                                                                 | 18.8                                                                                | 19.4                                                                                | 4.2                                                                                 |
| Queue Length 50th (m)  | 21.0                                                                              | 27.2                                                                              | 0.0                                                                               | 52.1                                                                              | 103.9                                                                             | 12.3                                                                              | 86.9                                                                                | 6.7                                                                                 | 2.4                                                                                 | 45.6                                                                                | 0.0                                                                                 |
| Queue Length 95th (m)  | 31.4                                                                              | 39.1                                                                              | 10.4                                                                              | 76.8                                                                              | 135.8                                                                             | m26.5                                                                             | 140.4                                                                               | m20.1                                                                               | 8.3                                                                                 | 77.4                                                                                | 7.7                                                                                 |
| Internal Link Dist (m) |                                                                                   | 371.4                                                                             |                                                                                   |                                                                                   | 41.8                                                                              |                                                                                   | 216.1                                                                               |                                                                                     |                                                                                     | 261.5                                                                               |                                                                                     |
| Turn Bay Length (m)    | 75.0                                                                              |                                                                                   | 75.0                                                                              | 65.0                                                                              |                                                                                   | 75.0                                                                              |                                                                                     | 50.0                                                                                | 75.0                                                                                |                                                                                     | 75.0                                                                                |
| Base Capacity (vph)    | 242                                                                               | 811                                                                               | 747                                                                               | 329                                                                               | 612                                                                               | 293                                                                               | 972                                                                                 | 809                                                                                 | 197                                                                                 | 903                                                                                 | 856                                                                                 |
| Starvation Cap Reductn | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Spillback Cap Reductn  | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Storage Cap Reductn    | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   | 0                                                                                   |
| Reduced v/c Ratio      | 0.54                                                                              | 0.20                                                                              | 0.14                                                                              | 0.61                                                                              | 0.65                                                                              | 0.31                                                                              | 0.59                                                                                | 0.14                                                                                | 0.10                                                                                | 0.36                                                                                | 0.08                                                                                |

### Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

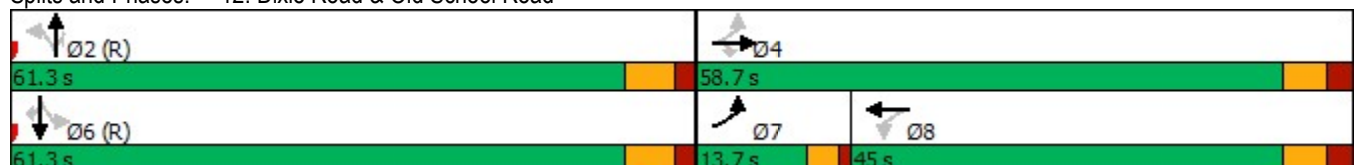
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: Dixie Road & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 12: Dixie Road & Old School Road

Future Total 2033 PM Peak Hour

|                                   |  |  |  |  |  |  |   |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                 | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |  |  |  |  |  |                                                                                   |  |  |  |  |  |  |
| Traffic Volume (vph)              | 130                                                                               | 160                                                                               | 105                                                                               | 200                                                                               | 385                                                                               | 15                                                                                | 90                                                                                  | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| Future Volume (vph)               | 130                                                                               | 160                                                                               | 105                                                                               | 200                                                                               | 385                                                                               | 15                                                                                | 90                                                                                  | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| Ideal Flow (vphpl)                | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                              | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                | 1900                                                                                |
| Lane Width                        | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                               | 3.7                                                                               | 3.5                                                                               | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 | 3.5                                                                                 | 3.7                                                                                 | 3.5                                                                                 |
| Total Lost time (s)               | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Lane Util. Factor                 | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Frt                               | 1.00                                                                              | 1.00                                                                              | 0.85                                                                              | 1.00                                                                              | 0.99                                                                              |                                                                                   | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                | 1.00                                                                                | 1.00                                                                                | 0.85                                                                                |
| Flt Protected                     | 0.95                                                                              | 1.00                                                                              | 1.00                                                                              | 0.95                                                                              | 1.00                                                                              |                                                                                   | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                | 0.95                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (prot)                 | 1785                                                                              | 1865                                                                              | 1581                                                                              | 1487                                                                              | 1905                                                                              |                                                                                   | 1038                                                                                | 1847                                                                                | 1465                                                                                | 1167                                                                                | 1715                                                                                | 1566                                                                                |
| Flt Permitted                     | 0.17                                                                              | 1.00                                                                              | 1.00                                                                              | 0.66                                                                              | 1.00                                                                              |                                                                                   | 0.51                                                                                | 1.00                                                                                | 1.00                                                                                | 0.31                                                                                | 1.00                                                                                | 1.00                                                                                |
| Satd. Flow (perm)                 | 322                                                                               | 1865                                                                              | 1581                                                                              | 1027                                                                              | 1905                                                                              |                                                                                   | 557                                                                                 | 1847                                                                                | 1465                                                                                | 375                                                                                 | 1715                                                                                | 1566                                                                                |
| Peak-hour factor, PHF             | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Adj. Flow (vph)                   | 130                                                                               | 160                                                                               | 105                                                                               | 200                                                                               | 385                                                                               | 15                                                                                | 90                                                                                  | 575                                                                                 | 115                                                                                 | 20                                                                                  | 325                                                                                 | 65                                                                                  |
| RTOR Reduction (vph)              | 0                                                                                 | 0                                                                                 | 67                                                                                | 0                                                                                 | 1                                                                                 | 0                                                                                 | 0                                                                                   | 0                                                                                   | 38                                                                                  | 0                                                                                   | 0                                                                                   | 31                                                                                  |
| Lane Group Flow (vph)             | 130                                                                               | 160                                                                               | 38                                                                                | 200                                                                               | 399                                                                               | 0                                                                                 | 90                                                                                  | 575                                                                                 | 77                                                                                  | 20                                                                                  | 325                                                                                 | 34                                                                                  |
| Heavy Vehicles (%)                | 0%                                                                                | 3%                                                                                | 1%                                                                                | 20%                                                                               | 0%                                                                                | 7%                                                                                | 72%                                                                                 | 4%                                                                                  | 9%                                                                                  | 53%                                                                                 | 12%                                                                                 | 2%                                                                                  |
| Turn Type                         | pm+pt                                                                             | NA                                                                                | Perm                                                                              | Perm                                                                              | NA                                                                                |                                                                                   | Perm                                                                                | NA                                                                                  | Perm                                                                                | Perm                                                                                | NA                                                                                  | Perm                                                                                |
| Protected Phases                  | 7                                                                                 | 4                                                                                 |                                                                                   |                                                                                   | 8                                                                                 |                                                                                   |                                                                                     | 2                                                                                   |                                                                                     |                                                                                     | 6                                                                                   |                                                                                     |
| Permitted Phases                  | 4                                                                                 |                                                                                   | 4                                                                                 | 8                                                                                 |                                                                                   |                                                                                   | 2                                                                                   |                                                                                     | 2                                                                                   | 6                                                                                   |                                                                                     | 6                                                                                   |
| Actuated Green, G (s)             | 43.8                                                                              | 43.8                                                                              | 43.8                                                                              | 30.3                                                                              | 30.3                                                                              |                                                                                   | 63.2                                                                                | 63.2                                                                                | 63.2                                                                                | 63.2                                                                                | 63.2                                                                                | 63.2                                                                                |
| Effective Green, g (s)            | 43.8                                                                              | 43.8                                                                              | 43.8                                                                              | 30.3                                                                              | 30.3                                                                              |                                                                                   | 63.2                                                                                | 63.2                                                                                | 63.2                                                                                | 63.2                                                                                | 63.2                                                                                | 63.2                                                                                |
| Actuated g/C Ratio                | 0.36                                                                              | 0.36                                                                              | 0.36                                                                              | 0.25                                                                              | 0.25                                                                              |                                                                                   | 0.53                                                                                | 0.53                                                                                | 0.53                                                                                | 0.53                                                                                | 0.53                                                                                | 0.53                                                                                |
| Clearance Time (s)                | 4.0                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               | 6.5                                                                               |                                                                                   | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 | 6.5                                                                                 |
| Vehicle Extension (s)             | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               | 3.0                                                                               |                                                                                   | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 | 3.0                                                                                 |
| Lane Grp Cap (vph)                | 233                                                                               | 680                                                                               | 577                                                                               | 259                                                                               | 481                                                                               |                                                                                   | 293                                                                                 | 972                                                                                 | 771                                                                                 | 197                                                                                 | 903                                                                                 | 824                                                                                 |
| v/s Ratio Prot                    | c0.04                                                                             | 0.09                                                                              |                                                                                   |                                                                                   | c0.21                                                                             |                                                                                   |                                                                                     | c0.31                                                                               |                                                                                     |                                                                                     | 0.19                                                                                |                                                                                     |
| v/s Ratio Perm                    | 0.16                                                                              |                                                                                   | 0.02                                                                              | 0.19                                                                              |                                                                                   |                                                                                   | 0.16                                                                                |                                                                                     | 0.05                                                                                | 0.05                                                                                |                                                                                     | 0.02                                                                                |
| v/c Ratio                         | 0.56                                                                              | 0.24                                                                              | 0.07                                                                              | 0.77                                                                              | 0.83                                                                              |                                                                                   | 0.31                                                                                | 0.59                                                                                | 0.10                                                                                | 0.10                                                                                | 0.36                                                                                | 0.04                                                                                |
| Uniform Delay, d1                 | 28.7                                                                              | 26.5                                                                              | 24.8                                                                              | 41.6                                                                              | 42.4                                                                              |                                                                                   | 16.0                                                                                | 19.5                                                                                | 14.2                                                                                | 14.2                                                                                | 16.6                                                                                | 13.7                                                                                |
| Progression Factor                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 0.71                                                                              | 0.71                                                                              |                                                                                   | 1.06                                                                                | 0.99                                                                                | 1.34                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Incremental Delay, d2             | 2.9                                                                               | 0.2                                                                               | 0.0                                                                               | 13.1                                                                              | 11.0                                                                              |                                                                                   | 2.2                                                                                 | 2.2                                                                                 | 0.2                                                                                 | 1.0                                                                                 | 1.1                                                                                 | 0.1                                                                                 |
| Delay (s)                         | 31.5                                                                              | 26.6                                                                              | 24.8                                                                              | 42.4                                                                              | 40.9                                                                              |                                                                                   | 19.2                                                                                | 21.5                                                                                | 19.2                                                                                | 15.2                                                                                | 17.7                                                                                | 13.8                                                                                |
| Level of Service                  | C                                                                                 | C                                                                                 | C                                                                                 | D                                                                                 | D                                                                                 |                                                                                   | B                                                                                   | C                                                                                   | B                                                                                   | B                                                                                   | B                                                                                   | B                                                                                   |
| Approach Delay (s)                |                                                                                   | 27.8                                                                              |                                                                                   |                                                                                   | 41.4                                                                              |                                                                                   |                                                                                     | 20.9                                                                                |                                                                                     |                                                                                     | 17.0                                                                                |                                                                                     |
| Approach LOS                      |                                                                                   | C                                                                                 |                                                                                   |                                                                                   | D                                                                                 |                                                                                   |                                                                                     | C                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |
| <b>Intersection Summary</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Control Delay            |                                                                                   |                                                                                   | 27.0                                                                              |                                                                                   |                                                                                   | HCM 2000 Level of Service                                                         |                                                                                     |                                                                                     | C                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| HCM 2000 Volume to Capacity ratio |                                                                                   |                                                                                   | 0.66                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Actuated Cycle Length (s)         |                                                                                   |                                                                                   | 120.0                                                                             |                                                                                   |                                                                                   | Sum of lost time (s)                                                              |                                                                                     |                                                                                     | 17.0                                                                                |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   | 82.4%                                                                             |                                                                                   |                                                                                   | ICU Level of Service                                                              |                                                                                     |                                                                                     | E                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| c Critical Lane Group             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |



# HCM Unsignalized Intersection Capacity Analysis

## 13: 12861 Site Access 2 & Old School Road

Future Total 2033 PM Peak Hour

|                                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   |                                                                                    |  |  |                                                                                    |  |                                                                                    |
| Movement                          | EBT                                                                                                                                                                 | EBR                                                                               | WBL                                                                               | WBT                                                                                                                                                                 | NBL                                                                               | NBR                                                                                                                                                                 |
| Lane Configurations               |   |                                                                                   |                                                                                   |   |                                                                                   |   |
| Traffic Volume (veh/h)            | 275                                                                                                                                                                 | 15                                                                                | 0                                                                                 | 595                                                                                                                                                                 | 0                                                                                 | 10                                                                                                                                                                  |
| Future Volume (Veh/h)             | 275                                                                                                                                                                 | 15                                                                                | 0                                                                                 | 595                                                                                                                                                                 | 0                                                                                 | 10                                                                                                                                                                  |
| Sign Control                      | Free                                                                                                                                                                |                                                                                   |                                                                                   | Free                                                                                                                                                                | Stop                                                                              |                                                                                                                                                                     |
| Grade                             | 0%                                                                                                                                                                  |                                                                                   |                                                                                   | 0%                                                                                                                                                                  | 0%                                                                                |                                                                                                                                                                     |
| Peak Hour Factor                  | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                              | 1.00                                                                                                                                                                | 1.00                                                                              | 1.00                                                                                                                                                                |
| Hourly flow rate (vph)            | 275                                                                                                                                                                 | 15                                                                                | 0                                                                                 | 595                                                                                                                                                                 | 0                                                                                 | 10                                                                                                                                                                  |
| Pedestrians                       |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Lane Width (m)                    |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Walking Speed (m/s)               |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Percent Blockage                  |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Right turn flare (veh)            |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Median type                       | None                                                                                                                                                                |                                                                                   |                                                                                   | None                                                                                                                                                                |                                                                                   |                                                                                                                                                                     |
| Median storage veh                |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Upstream signal (m)               | 66                                                                                                                                                                  |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| pX, platoon unblocked             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| vC, conflicting volume            |                                                                                                                                                                     |                                                                                   | 290                                                                               |                                                                                                                                                                     | 580                                                                               | 145                                                                                                                                                                 |
| vC1, stage 1 conf vol             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| vC2, stage 2 conf vol             |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| vCu, unblocked vol                |                                                                                                                                                                     |                                                                                   | 290                                                                               |                                                                                                                                                                     | 580                                                                               | 145                                                                                                                                                                 |
| tC, single (s)                    |                                                                                                                                                                     |                                                                                   | 4.1                                                                               |                                                                                                                                                                     | 6.8                                                                               | 6.9                                                                                                                                                                 |
| tC, 2 stage (s)                   |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| tF (s)                            |                                                                                                                                                                     |                                                                                   | 2.2                                                                               |                                                                                                                                                                     | 3.5                                                                               | 3.3                                                                                                                                                                 |
| p0 queue free %                   |                                                                                                                                                                     |                                                                                   | 100                                                                               |                                                                                                                                                                     | 100                                                                               | 99                                                                                                                                                                  |
| cM capacity (veh/h)               |                                                                                                                                                                     |                                                                                   | 1283                                                                              |                                                                                                                                                                     | 450                                                                               | 882                                                                                                                                                                 |
| Direction, Lane #                 | EB 1                                                                                                                                                                | EB 2                                                                              | WB 1                                                                              | WB 2                                                                                                                                                                | NB 1                                                                              |                                                                                                                                                                     |
| Volume Total                      | 183                                                                                                                                                                 | 107                                                                               | 298                                                                               | 298                                                                                                                                                                 | 10                                                                                |                                                                                                                                                                     |
| Volume Left                       | 0                                                                                                                                                                   | 0                                                                                 | 0                                                                                 | 0                                                                                                                                                                   | 0                                                                                 |                                                                                                                                                                     |
| Volume Right                      | 0                                                                                                                                                                   | 15                                                                                | 0                                                                                 | 0                                                                                                                                                                   | 10                                                                                |                                                                                                                                                                     |
| cSH                               | 1700                                                                                                                                                                | 1700                                                                              | 1700                                                                              | 1700                                                                                                                                                                | 882                                                                               |                                                                                                                                                                     |
| Volume to Capacity                | 0.11                                                                                                                                                                | 0.06                                                                              | 0.17                                                                              | 0.17                                                                                                                                                                | 0.01                                                                              |                                                                                                                                                                     |
| Queue Length 95th (m)             | 0.0                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                 | 0.3                                                                               |                                                                                                                                                                     |
| Control Delay (s)                 | 0.0                                                                                                                                                                 | 0.0                                                                               | 0.0                                                                               | 0.0                                                                                                                                                                 | 9.1                                                                               |                                                                                                                                                                     |
| Lane LOS                          |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     | A                                                                                 |                                                                                                                                                                     |
| Approach Delay (s)                | 0.0                                                                                                                                                                 |                                                                                   | 0.0                                                                               |                                                                                                                                                                     | 9.1                                                                               |                                                                                                                                                                     |
| Approach LOS                      |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     | A                                                                                 |                                                                                                                                                                     |
| Intersection Summary              |                                                                                                                                                                     |                                                                                   |                                                                                   |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Average Delay                     |                                                                                                                                                                     |                                                                                   | 0.1                                                                               |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |
| Intersection Capacity Utilization |                                                                                                                                                                     |                                                                                   | 19.8%                                                                             |                                                                                                                                                                     | ICU Level of Service                                                              | A                                                                                                                                                                   |
| Analysis Period (min)             |                                                                                                                                                                     |                                                                                   | 15                                                                                |                                                                                                                                                                     |                                                                                   |                                                                                                                                                                     |

## Queues

### 14: 12861 Site Access 3 & Old School Road

Future Total 2033 PM Peak Hour

|                        | →     | ↖     | ←     | ↙     |
|------------------------|-------|-------|-------|-------|
| Lane Group             | EBT   | WBL   | WBT   | NBL   |
| Lane Configurations    | ↑↑    | ↑     | ↑↑    | ↘     |
| Traffic Volume (vph)   | 285   | 10    | 465   | 130   |
| Future Volume (vph)    | 285   | 10    | 465   | 130   |
| Lane Group Flow (vph)  | 285   | 10    | 465   | 150   |
| Turn Type              | NA    | Perm  | NA    | Prot  |
| Protected Phases       | 4     |       | 8     | 2     |
| Permitted Phases       |       | 8     |       |       |
| Detector Phase         | 4     | 8     | 8     | 2     |
| Switch Phase           |       |       |       |       |
| Minimum Initial (s)    | 5.0   | 5.0   | 5.0   | 5.0   |
| Minimum Split (s)      | 28.5  | 31.5  | 31.5  | 31.5  |
| Total Split (s)        | 60.0  | 60.0  | 60.0  | 60.0  |
| Total Split (%)        | 50.0% | 50.0% | 50.0% | 50.0% |
| Yellow Time (s)        | 4.5   | 4.5   | 4.5   | 4.0   |
| All-Red Time (s)       | 2.0   | 2.0   | 2.0   | 2.5   |
| Lost Time Adjust (s)   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)    | 6.5   | 6.5   | 6.5   | 6.5   |
| Lead/Lag               |       |       |       |       |
| Lead-Lag Optimize?     |       |       |       |       |
| Recall Mode            | None  | None  | None  | C-Min |
| v/c Ratio              | 0.45  | 0.09  | 0.73  | 0.15  |
| Control Delay          | 40.1  | 40.9  | 53.2  | 6.1   |
| Queue Delay            | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay            | 40.1  | 40.9  | 53.2  | 6.1   |
| Queue Length 50th (m)  | 33.5  | 2.1   | 57.8  | 9.9   |
| Queue Length 95th (m)  | 41.8  | 7.0   | 72.5  | 20.1  |
| Internal Link Dist (m) | 433.3 |       | 157.0 | 183.7 |
| Turn Bay Length (m)    |       | 95.0  |       |       |
| Base Capacity (vph)    | 1611  | 284   | 1611  | 1005  |
| Starvation Cap Reductn | 0     | 0     | 0     | 0     |
| Spillback Cap Reductn  | 0     | 0     | 0     | 0     |
| Storage Cap Reductn    | 0     | 0     | 0     | 0     |
| Reduced v/c Ratio      | 0.18  | 0.04  | 0.29  | 0.15  |

#### Intersection Summary

Cycle Length: 120

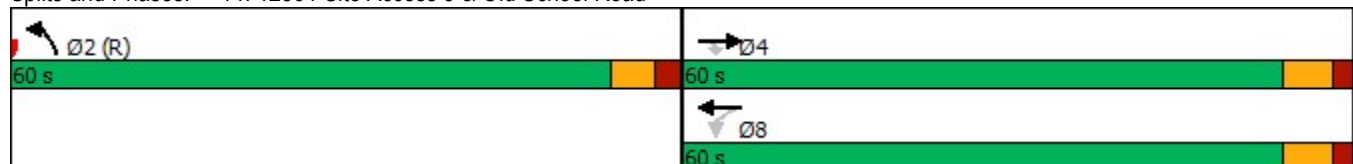
Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBL and 6:, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Splits and Phases: 14: 12861 Site Access 3 & Old School Road



# HCM Signalized Intersection Capacity Analysis

## 14: 12861 Site Access 3 & Old School Road

Future Total 2033 PM Peak Hour

|                                   | →    | ↘    | ↙     | ←     | ↖                         | ↗    |
|-----------------------------------|------|------|-------|-------|---------------------------|------|
| Movement                          | EBT  | EBR  | WBL   | WBT   | NBL                       | NBR  |
| Lane Configurations               | ↑↑   | ↑    | ↓     | ↑↑    | ↓                         |      |
| Traffic Volume (vph)              | 285  | 0    | 10    | 465   | 130                       | 20   |
| Future Volume (vph)               | 285  | 0    | 10    | 465   | 130                       | 20   |
| Ideal Flow (vphpl)                | 1900 | 1900 | 1900  | 1900  | 1900                      | 1900 |
| Lane Width                        | 3.7  | 3.5  | 3.5   | 3.7   | 3.5                       | 3.5  |
| Total Lost time (s)               | 6.5  |      | 6.5   | 6.5   | 6.5                       |      |
| Lane Util. Factor                 | 0.95 |      | 1.00  | 0.95  | 1.00                      |      |
| Frt                               | 1.00 |      | 1.00  | 1.00  | 0.98                      |      |
| Flt Protected                     | 1.00 |      | 0.95  | 1.00  | 0.96                      |      |
| Satd. Flow (prot)                 | 3614 |      | 1190  | 3614  | 1405                      |      |
| Flt Permitted                     | 1.00 |      | 0.51  | 1.00  | 0.96                      |      |
| Satd. Flow (perm)                 | 3614 |      | 639   | 3614  | 1405                      |      |
| Peak-hour factor, PHF             | 1.00 | 1.00 | 1.00  | 1.00  | 1.00                      | 1.00 |
| Adj. Flow (vph)                   | 285  | 0    | 10    | 465   | 130                       | 20   |
| RTOR Reduction (vph)              | 0    | 0    | 0     | 0     | 2                         | 0    |
| Lane Group Flow (vph)             | 285  | 0    | 10    | 465   | 148                       | 0    |
| Heavy Vehicles (%)                | 1%   | 0%   | 50%   | 1%    | 26%                       | 25%  |
| Turn Type                         | NA   | Perm | Perm  | NA    | Prot                      |      |
| Protected Phases                  | 4    |      |       | 8     | 2                         |      |
| Permitted Phases                  |      | 4    | 8     |       |                           |      |
| Actuated Green, G (s)             | 21.3 |      | 21.3  | 21.3  | 85.7                      |      |
| Effective Green, g (s)            | 21.3 |      | 21.3  | 21.3  | 85.7                      |      |
| Actuated g/C Ratio                | 0.18 |      | 0.18  | 0.18  | 0.71                      |      |
| Clearance Time (s)                | 6.5  |      | 6.5   | 6.5   | 6.5                       |      |
| Vehicle Extension (s)             | 3.0  |      | 3.0   | 3.0   | 3.0                       |      |
| Lane Grp Cap (vph)                | 641  |      | 113   | 641   | 1003                      |      |
| v/s Ratio Prot                    | 0.08 |      |       | c0.13 | c0.11                     |      |
| v/s Ratio Perm                    |      |      | 0.02  |       |                           |      |
| v/c Ratio                         | 0.44 |      | 0.09  | 0.73  | 0.15                      |      |
| Uniform Delay, d1                 | 44.1 |      | 41.2  | 46.6  | 5.5                       |      |
| Progression Factor                | 0.87 |      | 1.00  | 1.00  | 1.00                      |      |
| Incremental Delay, d2             | 0.5  |      | 0.3   | 4.1   | 0.3                       |      |
| Delay (s)                         | 38.9 |      | 41.6  | 50.7  | 5.8                       |      |
| Level of Service                  | D    |      | D     | D     | A                         |      |
| Approach Delay (s)                | 38.9 |      |       | 50.5  | 5.8                       |      |
| Approach LOS                      | D    |      |       | D     | A                         |      |
| <b>Intersection Summary</b>       |      |      |       |       |                           |      |
| HCM 2000 Control Delay            |      |      | 39.5  |       | HCM 2000 Level of Service | D    |
| HCM 2000 Volume to Capacity ratio |      |      | 0.26  |       |                           |      |
| Actuated Cycle Length (s)         |      |      | 120.0 |       | Sum of lost time (s)      | 13.0 |
| Intersection Capacity Utilization |      |      | 32.1% |       | ICU Level of Service      | A    |
| Analysis Period (min)             |      |      | 15    |       |                           |      |
| c Critical Lane Group             |      |      |       |       |                           |      |

# HCM Unsignalized Intersection Capacity Analysis

## 15: Bramalea Road & Old School Road

Future Total 2033 PM Peak Hour

|                                   |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Movement                          | EBL                                                                               | EBT                                                                               | EBR                                                                               | WBL                                                                               | WBT                                                                               | WBR                                                                               | NBL                                                                                | NBT                                                                                 | NBR                                                                                 | SBL                                                                                 | SBT                                                                                 | SBR                                                                                 |
| Lane Configurations               |                                                                                   |  |                                                                                   |                                                                                   |  |                                                                                   |                                                                                    |  |                                                                                     |                                                                                     |  |                                                                                     |
| Sign Control                      |                                                                                   | Stop                                                                              |                                                                                   |                                                                                   | Stop                                                                              |                                                                                   |                                                                                    | Stop                                                                                |                                                                                     |                                                                                     | Stop                                                                                |                                                                                     |
| Traffic Volume (vph)              | 45                                                                                | 235                                                                               | 25                                                                                | 15                                                                                | 390                                                                               | 10                                                                                | 60                                                                                 | 220                                                                                 | 35                                                                                  | 10                                                                                  | 60                                                                                  | 25                                                                                  |
| Future Volume (vph)               | 45                                                                                | 235                                                                               | 25                                                                                | 15                                                                                | 390                                                                               | 10                                                                                | 60                                                                                 | 220                                                                                 | 35                                                                                  | 10                                                                                  | 60                                                                                  | 25                                                                                  |
| Peak Hour Factor                  | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                              | 1.00                                                                               | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                | 1.00                                                                                |
| Hourly flow rate (vph)            | 45                                                                                | 235                                                                               | 25                                                                                | 15                                                                                | 390                                                                               | 10                                                                                | 60                                                                                 | 220                                                                                 | 35                                                                                  | 10                                                                                  | 60                                                                                  | 25                                                                                  |
| Direction, Lane #                 | EB 1                                                                              | WB 1                                                                              | NB 1                                                                              | SB 1                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Total (vph)                | 305                                                                               | 415                                                                               | 315                                                                               | 95                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Left (vph)                 | 45                                                                                | 15                                                                                | 60                                                                                | 10                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Volume Right (vph)                | 25                                                                                | 10                                                                                | 35                                                                                | 25                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Hadj (s)                          | 0.10                                                                              | 0.03                                                                              | -0.03                                                                             | 0.06                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Departure Headway (s)             | 6.2                                                                               | 5.9                                                                               | 6.3                                                                               | 7.0                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Degree Utilization, x             | 0.53                                                                              | 0.68                                                                              | 0.55                                                                              | 0.18                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Capacity (veh/h)                  | 541                                                                               | 572                                                                               | 530                                                                               | 415                                                                               |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Control Delay (s)                 | 15.8                                                                              | 20.7                                                                              | 16.7                                                                              | 11.6                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach Delay (s)                | 15.8                                                                              | 20.7                                                                              | 16.7                                                                              | 11.6                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Approach LOS                      | C                                                                                 | C                                                                                 | C                                                                                 | B                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Summary              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Delay                             |                                                                                   |                                                                                   |                                                                                   | 17.5                                                                              |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Level of Service                  |                                                                                   |                                                                                   |                                                                                   | C                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Intersection Capacity Utilization |                                                                                   |                                                                                   |                                                                                   | 64.2%                                                                             | ICU Level of Service                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Analysis Period (min)             |                                                                                   |                                                                                   |                                                                                   | 15                                                                                |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## **Appendix I: SimTraffic Worksheets**

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|-----|
| Denied Del/Veh (s) | 0.4  | 0.2  | 0.3  | 1.7  | 0.2  | 1.3  | 1.7  | 0.4  | 2.0  | 0.1  | 0.0  | 0.1 |
| Total Del/Veh (s)  | 59.3 | 27.5 | 14.0 | 32.4 | 29.0 | 12.9 | 61.9 | 30.2 | 17.3 | 38.6 | 31.5 | 8.6 |
| Stop Del/Veh (s)   | 49.3 | 17.3 | 7.5  | 28.6 | 22.9 | 9.1  | 56.9 | 23.8 | 16.1 | 33.4 | 23.4 | 5.7 |

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.3  |
| Total Del/Veh (s)  | 29.2 |
| Stop Del/Veh (s)   | 21.3 |

### 5: Dixie Road & Abbotside Wy. /Spokanne St Performance by movement

| Movement           | EBL | EBR | NBL | NBT | SBT | SBR | All |
|--------------------|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.4 | 0.0 | 0.1 | 0.0 | 0.1 |
| Total Del/Veh (s)  | 8.8 | 4.8 | 5.4 | 2.8 | 1.3 | 0.2 | 2.3 |
| Stop Del/Veh (s)   | 6.8 | 4.5 | 2.0 | 0.3 | 0.0 | 0.0 | 0.4 |

### 7: Dixie Road & UPS Facility Access/Construction Access Performance by movement

| Movement           | EBR | NBL | NBT | SBT  | SBR  | All |
|--------------------|-----|-----|-----|------|------|-----|
| Denied Del/Veh (s) | 0.1 | 0.0 | 0.0 | 0.1  | 0.0  | 0.0 |
| Total Del/Veh (s)  | 4.4 | 3.4 | 1.2 | 11.5 | 11.9 | 7.6 |
| Stop Del/Veh (s)   | 4.0 | 2.2 | 0.1 | 0.2  | 0.3  | 0.4 |

### 12: Dixie Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL  | WBT  | WBR | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------|------|------|------|------|------|-----|------|------|------|------|------|------|
| Denied Del/Veh (s) | 3.2  | 0.5  | 0.6  | 4.0  | 0.3  | 0.1 | 0.0  | 0.0  | 0.0  | 3.5  | 0.4  | 0.5  |
| Total Del/Veh (s)  | 21.9 | 21.5 | 19.4 | 36.4 | 16.0 | 7.8 | 19.8 | 14.7 | 11.8 | 20.5 | 14.3 | 11.0 |
| Stop Del/Veh (s)   | 21.8 | 21.3 | 18.8 | 29.7 | 11.0 | 2.7 | 12.4 | 5.6  | 4.8  | 14.1 | 8.2  | 5.1  |

### 12: Dixie Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.6  |
| Total Del/Veh (s)  | 17.6 |
| Stop Del/Veh (s)   | 13.1 |

15: Bramalea Road & Old School Road Performance by movement

| Movement           | EBL | EBT | EBR  | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR | All |
|--------------------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.4 | 0.5  | 0.1 | 0.2 | 0.1 | 0.2 | 0.3 | 0.2 | 0.2 | 0.3 | 0.3 |
| Total Del/Veh (s)  | 7.3 | 9.6 | 10.0 | 7.4 | 7.2 | 8.0 | 7.9 | 8.3 | 8.6 | 8.1 | 7.0 | 8.6 |
| Stop Del/Veh (s)   | 3.2 | 4.2 | 4.6  | 2.6 | 3.1 | 3.6 | 3.4 | 3.9 | 4.1 | 3.5 | 2.6 | 3.7 |

Total Network Performance

|                    |      |
|--------------------|------|
| Denied Del/Veh (s) | 0.4  |
| Total Del/Veh (s)  | 31.6 |
| Stop Del/Veh (s)   | 19.0 |

Queuing and Blocking Report  
Existing AM Peak Hour

07-22-2025

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | EB    | EB    | EB    | EB    | EB    | WB    | WB    | WB    | WB   | NB    | NB    | NB   |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|
| Directions Served     | L     | T     | T     | T     | R     | L     | T     | T     | TR   | L     | T     | R    |
| Maximum Queue (m)     | 158.9 | 142.8 | 143.1 | 137.5 | 122.5 | 33.4  | 125.8 | 115.5 | 72.5 | 85.5  | 46.1  | 27.6 |
| Average Queue (m)     | 73.3  | 73.6  | 81.1  | 80.2  | 33.2  | 12.7  | 61.7  | 62.1  | 46.6 | 34.1  | 23.9  | 8.4  |
| 95th Queue (m)        | 132.3 | 124.3 | 129.3 | 124.3 | 86.5  | 25.9  | 92.8  | 93.8  | 77.2 | 66.1  | 47.5  | 19.6 |
| Link Distance (m)     |       | 991.5 | 991.5 | 991.5 |       |       | 565.9 | 565.9 |      |       | 845.5 |      |
| Upstream Blk Time (%) |       |       |       |       |       |       |       |       |      |       |       |      |
| Queuing Penalty (veh) |       |       |       |       |       |       |       |       |      |       |       |      |
| Storage Bay Dist (m)  | 155.0 |       |       |       | 115.0 | 150.0 |       |       | 65.0 | 140.0 |       | 65.0 |
| Storage Blk Time (%)  | 0     |       |       | 1     | 0     |       |       | 3     | 0    |       |       |      |
| Queuing Penalty (veh) | 1     |       |       | 4     | 0     |       |       | 9     | 1    |       |       |      |

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | SB    | SB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | L     | T     | R     |
| Maximum Queue (m)     | 39.9  | 76.8  | 53.9  |
| Average Queue (m)     | 14.2  | 40.2  | 19.8  |
| 95th Queue (m)        | 30.3  | 68.0  | 37.8  |
| Link Distance (m)     |       | 476.5 |       |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  | 100.0 |       | 170.0 |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

Intersection: 5: Dixie Road & Abbotside Wy. /Spokane St

| Movement              | EB    | NB   |
|-----------------------|-------|------|
| Directions Served     | LTR   | L    |
| Maximum Queue (m)     | 18.4  | 13.2 |
| Average Queue (m)     | 8.0   | 3.9  |
| 95th Queue (m)        | 16.9  | 10.6 |
| Link Distance (m)     | 235.5 |      |
| Upstream Blk Time (%) |       |      |
| Queuing Penalty (veh) |       |      |
| Storage Bay Dist (m)  |       | 95.0 |
| Storage Blk Time (%)  |       |      |
| Queuing Penalty (veh) |       |      |



# Queuing and Blocking Report

## Existing AM Peak Hour

07-22-2025

### Intersection: 7: Dixie Road & UPS Facility Access/Construction Access

| Movement              | EB   | NB    |
|-----------------------|------|-------|
| Directions Served     | R    | LT    |
| Maximum Queue (m)     | 16.1 | 18.0  |
| Average Queue (m)     | 2.4  | 3.9   |
| 95th Queue (m)        | 10.2 | 12.3  |
| Link Distance (m)     | 49.1 | 122.2 |
| Upstream Blk Time (%) |      |       |
| Queuing Penalty (veh) |      |       |
| Storage Bay Dist (m)  |      |       |
| Storage Blk Time (%)  |      |       |
| Queuing Penalty (veh) |      |       |

### Intersection: 12: Dixie Road

| Movement              | EB   | EB    | WB   | WB    | NB   | NB     | SB   | SB    |
|-----------------------|------|-------|------|-------|------|--------|------|-------|
| Directions Served     | L    | TR    | L    | TR    | L    | TR     | L    | TR    |
| Maximum Queue (m)     | 72.4 | 101.1 | 14.6 | 33.5  | 19.7 | 41.4   | 19.8 | 58.5  |
| Average Queue (m)     | 11.8 | 49.5  | 8.8  | 17.2  | 3.2  | 13.5   | 3.7  | 34.6  |
| 95th Queue (m)        | 40.9 | 80.1  | 15.4 | 29.6  | 12.0 | 31.2   | 12.5 | 55.8  |
| Link Distance (m)     |      | 130.2 |      | 147.7 |      | 2408.8 |      | 273.7 |
| Upstream Blk Time (%) |      |       |      |       |      |        |      |       |
| Queuing Penalty (veh) |      |       |      |       |      |        |      |       |
| Storage Bay Dist (m)  | 65.0 |       | 65.0 |       | 65.0 |        | 65.0 |       |
| Storage Blk Time (%)  |      | 5     |      |       |      |        |      |       |
| Queuing Penalty (veh) |      | 2     |      |       |      |        |      |       |

### Intersection: 15: Bramalea Road & Old School Road

| Movement              | EB    | WB   | NB    | SB    |
|-----------------------|-------|------|-------|-------|
| Directions Served     | LTR   | LTR  | LTR   | LTR   |
| Maximum Queue (m)     | 39.1  | 22.2 | 21.7  | 20.8  |
| Average Queue (m)     | 19.1  | 11.0 | 11.5  | 11.8  |
| 95th Queue (m)        | 28.2  | 17.3 | 19.3  | 18.3  |
| Link Distance (m)     | 120.6 | 90.4 | 175.7 | 122.2 |
| Upstream Blk Time (%) |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |
| Storage Bay Dist (m)  |       |      |       |       |
| Storage Blk Time (%)  |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |

### Network Summary

Network wide Queuing Penalty: 17

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|--------------------|------|------|-----|------|------|------|------|------|------|------|------|------|
| Denied Del/Veh (s) | 0.3  | 0.1  | 0.1 | 1.5  | 0.2  | 1.1  | 1.2  | 0.4  | 1.3  | 0.0  | 0.0  | 0.1  |
| Total Del/Veh (s)  | 41.6 | 19.3 | 7.1 | 23.9 | 30.2 | 14.5 | 49.6 | 37.1 | 12.4 | 41.7 | 29.3 | 14.9 |
| Stop Del/Veh (s)   | 33.2 | 12.9 | 3.4 | 20.2 | 22.6 | 9.7  | 43.4 | 30.4 | 8.6  | 36.4 | 24.0 | 11.2 |

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.3  |
| Total Del/Veh (s)  | 26.1 |
| Stop Del/Veh (s)   | 19.6 |

### 5: Dixie Road & Abbotside Wy. /Spokane St Performance by movement

| Movement           | EBL  | EBR | NBL | NBT | SBT | All |
|--------------------|------|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1  | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s)  | 13.4 | 4.2 | 5.9 | 3.5 | 1.1 | 2.6 |
| Stop Del/Veh (s)   | 11.2 | 3.8 | 2.8 | 0.2 | 0.0 | 0.5 |

### 7: Dixie Road & UPS Facility Access/Construction Access Performance by movement

| Movement           | EBL | NBL | NBT | SBT  | SBR | All |
|--------------------|-----|-----|-----|------|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.0 | 0.1 | 0.1  | 0.2 | 0.1 |
| Total Del/Veh (s)  | 8.1 | 5.6 | 1.2 | 12.2 | 9.5 | 6.7 |
| Stop Del/Veh (s)   | 5.0 | 2.0 | 0.1 | 0.2  | 0.1 | 0.2 |

### 12: Dixie Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR |
|--------------------|------|------|------|------|------|------|------|------|------|------|------|-----|
| Denied Del/Veh (s) | 4.2  | 0.2  | 0.4  | 3.6  | 0.5  | 0.6  | 0.0  | 0.0  | 0.5  | 2.3  | 0.3  | 0.2 |
| Total Del/Veh (s)  | 31.0 | 19.0 | 13.5 | 25.1 | 22.8 | 20.4 | 29.9 | 21.6 | 20.5 | 13.6 | 10.1 | 7.9 |
| Stop Del/Veh (s)   | 27.9 | 14.7 | 11.0 | 21.5 | 17.2 | 17.2 | 10.7 | 6.6  | 6.1  | 11.4 | 6.9  | 6.2 |

### 12: Dixie Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.5  |
| Total Del/Veh (s)  | 19.1 |
| Stop Del/Veh (s)   | 11.3 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.2 | 0.2 | 0.1 | 0.3 | 0.3 | 0.5 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 |
| Total Del/Veh (s)  | 7.5 | 7.5 | 3.5 | 7.6 | 9.3 | 4.5 | 6.8 | 8.9 | 5.3 | 5.3 | 7.1 | 4.1 |
| Stop Del/Veh (s)   | 4.8 | 3.2 | 2.6 | 4.0 | 4.3 | 2.8 | 3.5 | 3.8 | 3.2 | 3.1 | 3.2 | 3.2 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | All |
|--------------------|-----|
| Denied Del/Veh (s) | 0.3 |
| Total Del/Veh (s)  | 8.0 |
| Stop Del/Veh (s)   | 3.8 |

### Total Network Performance

|                    |      |
|--------------------|------|
| Denied Del/Veh (s) | 0.4  |
| Total Del/Veh (s)  | 29.9 |
| Stop Del/Veh (s)   | 17.5 |

Queuing and Blocking Report  
Existing PM Peak Hour

07-22-2025

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | EB    | EB    | EB    | EB    | EB    | WB    | WB    | WB    | WB   | NB    | NB    | NB   |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|
| Directions Served     | L     | T     | T     | T     | R     | L     | T     | T     | TR   | L     | T     | R    |
| Maximum Queue (m)     | 105.1 | 99.1  | 91.7  | 84.5  | 29.5  | 30.4  | 141.7 | 136.6 | 72.5 | 83.6  | 59.0  | 35.3 |
| Average Queue (m)     | 47.7  | 47.2  | 51.0  | 50.2  | 13.6  | 11.0  | 82.9  | 83.7  | 61.0 | 43.7  | 34.0  | 11.9 |
| 95th Queue (m)        | 84.8  | 81.9  | 77.3  | 81.5  | 23.3  | 22.5  | 121.1 | 118.3 | 89.1 | 72.5  | 54.1  | 27.5 |
| Link Distance (m)     |       | 991.5 | 991.5 | 991.5 |       |       | 565.9 | 565.9 |      |       | 845.5 |      |
| Upstream Blk Time (%) |       |       |       |       |       |       |       |       |      |       |       |      |
| Queuing Penalty (veh) |       |       |       |       |       |       |       |       |      |       |       |      |
| Storage Bay Dist (m)  | 155.0 |       |       |       | 115.0 | 150.0 |       |       | 65.0 | 140.0 |       | 65.0 |
| Storage Blk Time (%)  |       |       |       |       |       |       |       | 12    | 2    |       | 0     |      |
| Queuing Penalty (veh) |       |       |       |       |       |       |       | 54    | 8    |       | 0     |      |

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | SB    | SB    | SB    |
|-----------------------|-------|-------|-------|
| Directions Served     | L     | T     | R     |
| Maximum Queue (m)     | 39.3  | 33.8  | 62.3  |
| Average Queue (m)     | 12.4  | 15.5  | 31.7  |
| 95th Queue (m)        | 28.8  | 30.3  | 56.8  |
| Link Distance (m)     |       | 476.5 |       |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  | 100.0 |       | 170.0 |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

Intersection: 5: Dixie Road & Abbotside Wy. /Spokane St

| Movement              | EB    | NB   |
|-----------------------|-------|------|
| Directions Served     | LTR   | L    |
| Maximum Queue (m)     | 21.6  | 15.8 |
| Average Queue (m)     | 8.7   | 3.3  |
| 95th Queue (m)        | 16.9  | 12.4 |
| Link Distance (m)     | 235.5 |      |
| Upstream Blk Time (%) |       |      |
| Queuing Penalty (veh) |       |      |
| Storage Bay Dist (m)  |       | 95.0 |
| Storage Blk Time (%)  |       |      |
| Queuing Penalty (veh) |       |      |

Queuing and Blocking Report  
Existing PM Peak Hour

07-22-2025

Intersection: 7: Dixie Road & UPS Facility Access/Construction Access

| Movement              | EB   | NB    |
|-----------------------|------|-------|
| Directions Served     | L    | LT    |
| Maximum Queue (m)     | 8.6  | 24.5  |
| Average Queue (m)     | 1.5  | 3.2   |
| 95th Queue (m)        | 6.8  | 13.1  |
| Link Distance (m)     | 49.1 | 122.2 |
| Upstream Blk Time (%) |      |       |
| Queuing Penalty (veh) |      |       |
| Storage Bay Dist (m)  |      |       |
| Storage Blk Time (%)  |      |       |
| Queuing Penalty (veh) |      |       |

Intersection: 12: Dixie Road

| Movement              | EB   | EB    | WB   | WB    | NB   | NB     | SB   | SB    |
|-----------------------|------|-------|------|-------|------|--------|------|-------|
| Directions Served     | L    | TR    | L    | TR    | L    | TR     | L    | TR    |
| Maximum Queue (m)     | 14.7 | 41.9  | 21.8 | 66.7  | 15.0 | 97.2   | 8.2  | 47.4  |
| Average Queue (m)     | 6.3  | 22.3  | 8.3  | 37.3  | 2.5  | 30.3   | 1.0  | 25.3  |
| 95th Queue (m)        | 13.5 | 39.2  | 18.1 | 53.4  | 9.5  | 61.3   | 5.2  | 44.0  |
| Link Distance (m)     |      | 130.2 |      | 147.7 |      | 2408.8 |      | 273.7 |
| Upstream Blk Time (%) |      |       |      |       |      |        |      |       |
| Queuing Penalty (veh) |      |       |      |       |      |        |      |       |
| Storage Bay Dist (m)  | 65.0 |       | 65.0 |       | 65.0 |        | 65.0 |       |
| Storage Blk Time (%)  |      |       |      | 0     |      | 1      |      |       |
| Queuing Penalty (veh) |      |       |      | 0     |      | 0      |      |       |

Intersection: 15: Bramalea Road & Old School Road

| Movement              | EB    | WB   | NB    | SB    |
|-----------------------|-------|------|-------|-------|
| Directions Served     | LTR   | LTR  | LTR   | LTR   |
| Maximum Queue (m)     | 21.8  | 42.7 | 28.1  | 16.1  |
| Average Queue (m)     | 10.4  | 19.8 | 16.0  | 8.8   |
| 95th Queue (m)        | 16.9  | 32.1 | 24.1  | 13.7  |
| Link Distance (m)     | 120.6 | 90.4 | 175.7 | 122.2 |
| Upstream Blk Time (%) |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |
| Storage Bay Dist (m)  |       |      |       |       |
| Storage Blk Time (%)  |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |

Network Summary

Network wide Queuing Penalty: 62

1: Dixie Road & Mayfield Road Performance by movement

| Movement           | EBL   | EBT  | EBR  | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|--------------------|-------|------|------|------|------|-----|------|------|-----|------|------|-----|
| Denied Del/Veh (s) | 0.7   | 0.4  | 0.5  | 2.7  | 0.2  | 2.5 | 0.7  | 0.1  | 0.9 | 0.0  | 0.0  | 0.2 |
| Total Del/Veh (s)  | 101.2 | 29.8 | 11.4 | 42.8 | 46.2 | 4.1 | 44.0 | 48.1 | 3.2 | 53.0 | 42.9 | 5.2 |
| Stop Del/Veh (s)   | 76.0  | 16.2 | 0.3  | 40.0 | 39.0 | 1.0 | 39.5 | 42.5 | 0.5 | 48.1 | 37.7 | 0.5 |

1: Dixie Road & Mayfield Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.5  |
| Total Del/Veh (s)  | 42.8 |
| Stop Del/Veh (s)   | 31.0 |

5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Performance by movement

| Movement           | EBL  | EBR | WBL  | WBR  | NBL  | NBT | NBR | SBL  | SBT | SBR | All |
|--------------------|------|-----|------|------|------|-----|-----|------|-----|-----|-----|
| Denied Del/Veh (s) | 3.6  | 4.0 | 4.2  | 0.1  | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 0.3 |
| Total Del/Veh (s)  | 56.8 | 9.7 | 61.8 | 17.9 | 18.4 | 7.1 | 9.9 | 21.0 | 3.8 | 2.4 | 8.3 |
| Stop Del/Veh (s)   | 54.5 | 9.1 | 57.5 | 16.1 | 12.7 | 2.0 | 2.9 | 16.4 | 1.5 | 0.6 | 4.2 |

7: Dixie Road & UPS Facility Access/12173 West Access 1 Performance by movement

| Movement           | EBR | NBL  | NBT | NBR | SBL  | SBT  | SBR | All |
|--------------------|-----|------|-----|-----|------|------|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.0  | 0.0 | 0.0 | 0.8  | 0.1  | 0.0 | 0.0 |
| Total Del/Veh (s)  | 6.1 | 11.4 | 6.8 | 5.8 | 31.2 | 10.7 | 8.8 | 8.7 |
| Stop Del/Veh (s)   | 6.1 | 6.8  | 1.8 | 0.8 | 21.0 | 2.8  | 2.6 | 2.6 |

8: Dixie Road & 12489 Site Access 1 Performance by movement

| Movement           | NBT | SBT | All |
|--------------------|-----|-----|-----|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s)  | 6.5 | 3.2 | 5.2 |
| Stop Del/Veh (s)   | 0.4 | 0.1 | 0.2 |

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Performance by movement

| Movement           | EBL  | EBR | NBL  | NBT | SBT | SBR | All |
|--------------------|------|-----|------|-----|-----|-----|-----|
| Denied Del/Veh (s) | 4.2  | 0.1 | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s)  | 66.3 | 9.4 | 13.0 | 4.4 | 6.4 | 5.2 | 6.1 |
| Stop Del/Veh (s)   | 62.3 | 6.4 | 6.2  | 0.4 | 0.7 | 0.4 | 1.4 |

### 11: Dixie Road & 12861 Site Access 1 Performance by movement

| Movement           | WBR | NBT | NBR | SBT | All |
|--------------------|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.0 | 0.0 | 0.3 | 0.1 |
| Total Del/Veh (s)  | 8.4 | 7.8 | 6.5 | 2.5 | 5.4 |
| Stop Del/Veh (s)   | 4.8 | 0.0 | 0.0 | 0.1 | 0.1 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL  | WBT  | WBR | NBL  | NBT | NBR | SBL  | SBT  | SBR |
|--------------------|------|------|------|------|------|-----|------|-----|-----|------|------|-----|
| Denied Del/Veh (s) | 3.5  | 0.7  | 3.2  | 0.0  | 0.0  | 0.1 | 0.0  | 0.0 | 0.0 | 2.9  | 1.1  | 3.0 |
| Total Del/Veh (s)  | 38.2 | 40.0 | 15.0 | 49.8 | 14.0 | 6.5 | 32.3 | 3.8 | 5.0 | 17.4 | 15.7 | 3.7 |
| Stop Del/Veh (s)   | 33.8 | 33.2 | 11.7 | 46.4 | 12.8 | 4.5 | 28.2 | 2.3 | 2.5 | 13.3 | 10.4 | 1.6 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.9  |
| Total Del/Veh (s)  | 16.2 |
| Stop Del/Veh (s)   | 12.5 |

### 13: 12861 Site Access 2 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBT | NBR | All |
|--------------------|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Total Del/Veh (s)  | 1.6 | 1.3 | 3.1 | 7.3 | 1.9 |
| Stop Del/Veh (s)   | 0.1 | 0.0 | 0.3 | 3.8 | 0.2 |

### 14: 12861 Site Access 3 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBL    | WBT    | NBL  | NBR  | All   |
|--------------------|-----|-----|--------|--------|------|------|-------|
| Denied Del/Veh (s) | 0.0 | 0.0 | 1576.0 | 1959.8 | 0.1  | 0.1  | 699.9 |
| Total Del/Veh (s)  | 1.4 | 0.6 | 3600.0 | 3600.0 | 45.9 | 32.5 | 347.7 |
| Stop Del/Veh (s)   | 0.3 | 0.0 | 3600.0 | 3600.0 | 41.2 | 27.3 | 346.1 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR | All |
|--------------------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.6  | 0.4  | 0.6  | 0.3 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.3 | 0.2 | 0.3 |
| Total Del/Veh (s)  | 10.9 | 11.3 | 11.3 | 7.9 | 7.8 | 7.7 | 7.8 | 7.0 | 7.9 | 9.6 | 8.6 | 9.6 |
| Stop Del/Veh (s)   | 5.7  | 5.9  | 5.9  | 3.7 | 3.4 | 3.5 | 3.4 | 3.0 | 2.8 | 4.7 | 3.7 | 4.7 |

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Total Network Performance

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|                    |      |
|--------------------|------|
| Denied Del/Veh (s) | 75.8 |
| Total Del/Veh (s)  | 74.0 |
| Stop Del/Veh (s)   | 54.6 |



Queuing and Blocking Report  
Future Background 2028 (12489) AM Peak Hour

07-23-2025

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | EB    | EB    | EB    | EB    | EB    | EB   | WB    | WB    | WB    | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|
| Directions Served     | L     | L     | T     | T     | T     | R    | L     | T     | T     | T     | R     | L     |
| Maximum Queue (m)     | 137.5 | 160.0 | 362.7 | 295.3 | 249.1 | 24.2 | 33.7  | 131.6 | 128.6 | 87.5  | 55.3  | 45.5  |
| Average Queue (m)     | 126.3 | 141.9 | 189.6 | 118.0 | 101.7 | 0.9  | 14.5  | 91.0  | 77.8  | 49.9  | 2.0   | 25.0  |
| 95th Queue (m)        | 153.5 | 184.6 | 366.6 | 237.8 | 180.9 | 8.3  | 31.8  | 121.0 | 102.3 | 79.2  | 18.9  | 43.7  |
| Link Distance (m)     |       |       | 988.7 | 988.7 | 988.7 |      |       | 280.2 | 280.2 | 280.2 |       |       |
| Upstream Blk Time (%) |       |       |       |       |       |      |       |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |      |       |       |       |       |       |       |
| Storage Bay Dist (m)  | 115.0 | 115.0 |       |       |       | 75.0 | 115.0 |       |       |       | 110.0 | 115.0 |
| Storage Blk Time (%)  | 17    | 34    | 0     |       | 16    |      |       | 1     |       |       |       |       |
| Queuing Penalty (veh) | 101   | 208   | 0     |       | 45    |      |       | 1     |       |       |       |       |

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | NB    | NB    | NB   | SB    | SB    | SB    | SB   |
|-----------------------|-------|-------|------|-------|-------|-------|------|
| Directions Served     | T     | T     | R    | L     | T     | T     | R    |
| Maximum Queue (m)     | 65.1  | 71.3  | 77.8 | 94.4  | 56.7  | 58.4  | 41.2 |
| Average Queue (m)     | 33.4  | 37.2  | 4.3  | 32.4  | 28.7  | 30.5  | 7.0  |
| 95th Queue (m)        | 54.1  | 59.1  | 28.7 | 65.3  | 49.1  | 53.7  | 28.1 |
| Link Distance (m)     | 847.5 | 847.5 |      |       | 469.3 | 469.3 |      |
| Upstream Blk Time (%) |       |       |      |       |       |       |      |
| Queuing Penalty (veh) |       |       |      |       |       |       |      |
| Storage Bay Dist (m)  |       |       | 65.0 | 115.0 |       | 135.0 |      |
| Storage Blk Time (%)  |       | 1     |      |       |       |       |      |
| Queuing Penalty (veh) |       | 1     |      |       |       |       |      |

Intersection: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

| Movement              | EB   | EB    | EB   | WB   | WB    | NB   | NB    | NB    | SB    | SB    | SB  |
|-----------------------|------|-------|------|------|-------|------|-------|-------|-------|-------|-----|
| Directions Served     | L    | T     | R    | L    | TR    | L    | T     | TR    | LT    | T     | R   |
| Maximum Queue (m)     | 14.3 | 26.5  | 22.2 | 22.4 | 45.2  | 41.2 | 51.3  | 487.1 | 38.6  | 36.6  | 5.8 |
| Average Queue (m)     | 6.0  | 1.5   | 12.8 | 12.0 | 5.9   | 16.6 | 11.8  | 64.5  | 13.6  | 11.3  | 0.9 |
| 95th Queue (m)        | 14.4 | 10.9  | 21.6 | 23.9 | 29.2  | 34.8 | 34.8  | 303.1 | 32.9  | 31.5  | 4.2 |
| Link Distance (m)     |      | 232.4 |      |      | 104.9 |      | 469.3 | 469.3 | 360.0 | 360.0 |     |
| Upstream Blk Time (%) |      |       |      |      |       |      |       | 0     |       |       |     |
| Queuing Penalty (veh) |      |       |      |      |       |      |       | 2     |       |       |     |
| Storage Bay Dist (m)  | 15.0 |       | 15.0 | 15.0 |       | 70.0 |       |       |       | 65.0  |     |
| Storage Blk Time (%)  | 5    | 0     | 5    | 28   | 1     |      |       |       |       |       |     |
| Queuing Penalty (veh) | 4    | 0     | 1    | 1    | 0     |      |       |       |       |       |     |

Queuing and Blocking Report  
 Future Background 2028 (12489) AM Peak Hour

07-23-2025

Intersection: 7: Dixie Road & UPS Facility Access/12173 West Access 1

| Movement              | EB    | NB    | NB    | SB    |
|-----------------------|-------|-------|-------|-------|
| Directions Served     | R     | LT    | TR    | LTR   |
| Maximum Queue (m)     | 15.7  | 53.1  | 62.0  | 164.4 |
| Average Queue (m)     | 1.5   | 22.0  | 20.3  | 20.6  |
| 95th Queue (m)        | 7.6   | 44.3  | 49.0  | 86.1  |
| Link Distance (m)     | 102.2 | 360.0 | 360.0 | 699.7 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

Intersection: 8: Dixie Road & 12489 Site Access 1

| Movement              |
|-----------------------|
| Directions Served     |
| Maximum Queue (m)     |
| Average Queue (m)     |
| 95th Queue (m)        |
| Link Distance (m)     |
| Upstream Blk Time (%) |
| Queuing Penalty (veh) |
| Storage Bay Dist (m)  |
| Storage Blk Time (%)  |
| Queuing Penalty (veh) |

Intersection: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

| Movement              | EB   | EB    | NB   | NB    | SB    | SB   |
|-----------------------|------|-------|------|-------|-------|------|
| Directions Served     | L    | TR    | L    | T     | T     | R    |
| Maximum Queue (m)     | 14.4 | 13.6  | 28.2 | 89.4  | 81.2  | 8.6  |
| Average Queue (m)     | 4.1  | 4.8   | 8.9  | 12.4  | 12.6  | 0.6  |
| 95th Queue (m)        | 11.5 | 11.1  | 20.3 | 47.3  | 43.6  | 4.2  |
| Link Distance (m)     |      | 171.5 |      | 375.1 | 819.4 |      |
| Upstream Blk Time (%) |      |       |      |       |       |      |
| Queuing Penalty (veh) |      |       |      |       |       |      |
| Storage Bay Dist (m)  | 20.0 |       | 60.0 |       |       | 60.0 |
| Storage Blk Time (%)  | 0    |       |      | 0     | 0     |      |
| Queuing Penalty (veh) | 0    |       |      | 0     | 0     |      |

Queuing and Blocking Report  
Future Background 2028 (12489) AM Peak Hour

07-23-2025

Intersection: 11: Dixie Road & 12861 Site Access 1

| Movement              | WB   |
|-----------------------|------|
| Directions Served     | R    |
| Maximum Queue (m)     | 9.0  |
| Average Queue (m)     | 3.9  |
| 95th Queue (m)        | 10.9 |
| Link Distance (m)     | 89.6 |
| Upstream Blk Time (%) |      |
| Queuing Penalty (veh) |      |
| Storage Bay Dist (m)  |      |
| Storage Blk Time (%)  |      |
| Queuing Penalty (veh) |      |

Intersection: 12: Dixie Road & Old School Road

| Movement              | EB   | EB    | EB   | WB   | WB   | NB   | NB    | NB   | SB   | SB    | SB   |
|-----------------------|------|-------|------|------|------|------|-------|------|------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR   | L    | T     | R    | L    | T     | R    |
| Maximum Queue (m)     | 40.8 | 112.9 | 45.1 | 29.1 | 19.1 | 36.6 | 75.0  | 13.2 | 28.0 | 109.4 | 20.6 |
| Average Queue (m)     | 11.9 | 62.2  | 12.2 | 11.5 | 7.1  | 11.6 | 17.7  | 3.9  | 8.0  | 60.0  | 10.0 |
| 95th Queue (m)        | 26.0 | 94.4  | 28.2 | 23.3 | 19.0 | 25.3 | 40.2  | 9.8  | 18.6 | 102.2 | 17.9 |
| Link Distance (m)     |      | 382.3 |      |      | 43.2 |      | 215.0 |      |      | 274.1 |      |
| Upstream Blk Time (%) |      |       |      |      |      |      |       |      |      |       |      |
| Queuing Penalty (veh) |      |       |      |      |      |      |       |      |      |       |      |
| Storage Bay Dist (m)  | 75.0 |       | 75.0 | 65.0 |      | 75.0 |       | 50.0 | 75.0 |       | 75.0 |
| Storage Blk Time (%)  |      | 4     |      |      |      |      | 1     |      |      | 3     |      |
| Queuing Penalty (veh) |      | 5     |      |      |      |      | 1     |      |      | 9     |      |

Intersection: 13: 12861 Site Access 2 & Old School Road

| Movement              | NB    |
|-----------------------|-------|
| Directions Served     | R     |
| Maximum Queue (m)     | 8.4   |
| Average Queue (m)     | 2.3   |
| 95th Queue (m)        | 8.4   |
| Link Distance (m)     | 166.2 |
| Upstream Blk Time (%) |       |
| Queuing Penalty (veh) |       |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

Queuing and Blocking Report  
Future Background 2028 (12489) AM Peak Hour

07-23-2025

Intersection: 14: 12861 Site Access 3 & Old School Road

| Movement              | EB    | EB    | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|
| Directions Served     | T     | T     | T     | T     | LR    |
| Maximum Queue (m)     | 9.3   | 15.0  | 170.4 | 169.1 | 33.7  |
| Average Queue (m)     | 1.6   | 2.1   | 170.4 | 169.1 | 17.6  |
| 95th Queue (m)        | 7.3   | 8.9   | 170.4 | 169.1 | 32.4  |
| Link Distance (m)     | 439.5 | 439.5 | 174.8 | 174.8 | 189.2 |
| Upstream Blk Time (%) |       |       | 100   | 100   |       |
| Queuing Penalty (veh) |       |       | 0     | 0     |       |
| Storage Bay Dist (m)  |       |       |       |       |       |
| Storage Blk Time (%)  |       |       | 100   |       |       |
| Queuing Penalty (veh) |       |       | 30    |       |       |

Intersection: 15: Bramalea Road & Old School Road

| Movement              | EB    | WB   | NB    | SB    |
|-----------------------|-------|------|-------|-------|
| Directions Served     | LTR   | LTR  | LTR   | LTR   |
| Maximum Queue (m)     | 51.6  | 30.8 | 25.6  | 34.3  |
| Average Queue (m)     | 26.9  | 14.7 | 11.0  | 16.5  |
| 95th Queue (m)        | 45.2  | 22.4 | 19.4  | 29.1  |
| Link Distance (m)     | 120.6 | 90.4 | 175.7 | 122.2 |
| Upstream Blk Time (%) |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |
| Storage Bay Dist (m)  |       |      |       |       |
| Storage Blk Time (%)  |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |

Network Summary

Network wide Queuing Penalty: 409

1: Dixie Road & Mayfield Road Performance by movement

| Movement           | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL   | NBT  | NBR | SBL  | SBT  | SBR   |
|--------------------|------|------|-----|------|------|-----|-------|------|-----|------|------|-------|
| Denied Del/Veh (s) | 0.5  | 0.2  | 0.2 | 2.4  | 0.2  | 2.2 | 0.8   | 0.1  | 0.8 | 33.3 | 21.5 | 19.3  |
| Total Del/Veh (s)  | 55.5 | 23.7 | 6.4 | 30.9 | 48.0 | 3.7 | 105.0 | 46.9 | 2.3 | 79.6 | 59.2 | 157.5 |
| Stop Del/Veh (s)   | 43.3 | 15.1 | 0.0 | 28.1 | 38.5 | 0.6 | 98.8  | 42.1 | 0.1 | 68.1 | 46.4 | 127.4 |

1: Dixie Road & Mayfield Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 5.8  |
| Total Del/Veh (s)  | 62.7 |
| Stop Del/Veh (s)   | 50.0 |

5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Performance by movement

| Movement           | EBL  | EBR  | WBL  | WBR | NBL  | NBT | NBR | SBL  | SBT  | SBR  | All  |
|--------------------|------|------|------|-----|------|-----|-----|------|------|------|------|
| Denied Del/Veh (s) | 3.9  | 3.9  | 3.9  | 0.1 | 0.0  | 0.0 | 0.0 | 0.0  | 2.2  | 0.0  | 1.5  |
| Total Del/Veh (s)  | 42.7 | 30.5 | 64.9 | 4.1 | 26.9 | 9.0 | 8.0 | 58.9 | 83.6 | 50.2 | 53.5 |
| Stop Del/Veh (s)   | 39.7 | 29.6 | 61.8 | 4.1 | 21.2 | 3.8 | 2.6 | 43.3 | 73.6 | 43.6 | 46.0 |

7: Dixie Road & UPS Facility Access/12173 West Access 1 Performance by movement

| Movement           | EBL  | WBR  | NBL  | NBT | NBR | SBT  | SBR  | All  |
|--------------------|------|------|------|-----|-----|------|------|------|
| Denied Del/Veh (s) | 0.1  | 0.1  | 0.0  | 0.0 | 0.0 | 0.5  | 3.5  | 0.4  |
| Total Del/Veh (s)  | 58.1 | 25.4 | 44.8 | 8.9 | 5.3 | 12.4 | 10.8 | 11.8 |
| Stop Del/Veh (s)   | 56.0 | 25.3 | 39.0 | 3.9 | 0.5 | 1.8  | 0.0  | 3.3  |

8: Dixie Road & 12489 Site Access 1 Performance by movement

| Movement           | NBT | SBT | All |
|--------------------|-----|-----|-----|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s)  | 5.5 | 4.8 | 5.1 |
| Stop Del/Veh (s)   | 0.3 | 0.1 | 0.1 |

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Performance by movement

| Movement           | EBL  | EBR  | NBL  | NBT | SBT  | SBR  | All  |
|--------------------|------|------|------|-----|------|------|------|
| Denied Del/Veh (s) | 4.0  | 0.2  | 0.0  | 0.0 | 0.0  | 0.0  | 0.1  |
| Total Del/Veh (s)  | 49.7 | 36.1 | 56.3 | 5.5 | 19.3 | 12.1 | 15.6 |
| Stop Del/Veh (s)   | 46.3 | 35.0 | 51.5 | 1.1 | 2.8  | 0.0  | 4.2  |

### 11: Dixie Road & 12861 Site Access 1 Performance by movement

| Movement           | WBR | NBT | NBR | SBT | All |
|--------------------|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.0 | 0.2 | 2.0 | 1.2 |
| Total Del/Veh (s)  | 9.8 | 8.4 | 7.1 | 3.2 | 5.3 |
| Stop Del/Veh (s)   | 9.4 | 0.1 | 0.0 | 0.1 | 0.3 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|--------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Denied Del/Veh (s) | 3.3  | 0.6  | 3.3 | 0.0  | 0.3  | 0.9  | 0.0  | 0.0  | 0.0 | 4.0  | 0.5  | 3.6 |
| Total Del/Veh (s)  | 29.9 | 30.7 | 8.4 | 34.8 | 28.0 | 35.2 | 44.7 | 20.8 | 5.1 | 34.9 | 20.6 | 8.1 |
| Stop Del/Veh (s)   | 26.7 | 26.4 | 7.0 | 31.4 | 23.5 | 34.0 | 40.1 | 14.4 | 2.8 | 32.4 | 15.9 | 7.4 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.7  |
| Total Del/Veh (s)  | 23.9 |
| Stop Del/Veh (s)   | 19.4 |

### 13: 12861 Site Access 2 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBT  | NBR | All |
|--------------------|-----|-----|------|-----|-----|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0  | 0.1 | 0.0 |
| Total Del/Veh (s)  | 1.2 | 0.8 | 12.6 | 2.6 | 8.8 |
| Stop Del/Veh (s)   | 0.3 | 0.4 | 7.2  | 2.4 | 5.0 |

### 14: 12861 Site Access 3 & Old School Road Performance by movement

| Movement           | EBT  | WBL  | WBT  | NBL | NBR | All  |
|--------------------|------|------|------|-----|-----|------|
| Denied Del/Veh (s) | 0.0  | 3.5  | 0.2  | 0.2 | 0.2 | 0.2  |
| Total Del/Veh (s)  | 23.7 | 32.9 | 29.9 | 7.5 | 3.6 | 23.8 |
| Stop Del/Veh (s)   | 19.5 | 29.7 | 24.8 | 5.8 | 2.2 | 19.7 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.3 | 0.3 | 0.2 | 0.2 | 0.4 | 0.3 | 0.2 | 0.3 | 0.2 | 0.4 | 0.1 | 0.2 |
| Total Del/Veh (s)  | 7.5 | 8.2 | 4.4 | 7.1 | 8.7 | 5.5 | 6.8 | 9.2 | 4.6 | 6.9 | 7.2 | 4.2 |
| Stop Del/Veh (s)   | 3.9 | 3.4 | 2.5 | 3.4 | 3.7 | 3.8 | 3.4 | 4.3 | 3.1 | 4.0 | 3.4 | 3.5 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | All |
|--------------------|-----|
| Denied Del/Veh (s) | 0.3 |
| Total Del/Veh (s)  | 8.1 |
| Stop Del/Veh (s)   | 3.7 |

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Total Network Performance

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|                    |      |
|--------------------|------|
| Denied Del/Veh (s) | 5.4  |
| Total Del/Veh (s)  | 86.2 |
| Stop Del/Veh (s)   | 59.9 |

Queuing and Blocking Report  
Future Background 2028 (12489) PM Peak Hour

07-24-2025

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | EB    | EB    | EB    | EB    | EB    | WB    | WB    | WB    | WB    | WB    | NB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Directions Served     | L     | L     | T     | T     | T     | L     | T     | T     | T     | R     | L     | T     |
| Maximum Queue (m)     | 129.5 | 116.1 | 100.4 | 109.9 | 111.8 | 27.1  | 173.6 | 156.5 | 161.3 | 8.1   | 154.7 | 47.1  |
| Average Queue (m)     | 72.3  | 80.0  | 57.2  | 68.4  | 71.3  | 9.4   | 118.7 | 107.3 | 82.2  | 0.3   | 70.0  | 22.8  |
| 95th Queue (m)        | 103.4 | 107.5 | 91.3  | 104.7 | 105.6 | 21.2  | 160.0 | 145.4 | 129.0 | 2.8   | 131.1 | 38.1  |
| Link Distance (m)     |       |       | 988.7 | 988.7 | 988.7 |       | 280.2 | 280.2 | 280.2 |       |       | 847.5 |
| Upstream Blk Time (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |       |       |       |       |       |       |       |
| Storage Bay Dist (m)  | 115.0 | 115.0 |       |       |       | 115.0 |       |       |       | 110.0 | 115.0 |       |
| Storage Blk Time (%)  | 0     | 0     |       |       | 8     |       | 10    |       | 0     |       | 4     |       |
| Queuing Penalty (veh) | 1     | 2     |       |       | 14    |       | 6     |       | 0     |       | 5     |       |

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | NB    | NB   | SB    | SB    | SB    | SB    |
|-----------------------|-------|------|-------|-------|-------|-------|
| Directions Served     | T     | R    | L     | T     | T     | R     |
| Maximum Queue (m)     | 51.7  | 16.7 | 111.1 | 484.7 | 481.7 | 205.0 |
| Average Queue (m)     | 23.8  | 1.1  | 42.2  | 402.2 | 456.2 | 205.0 |
| 95th Queue (m)        | 41.6  | 7.6  | 81.9  | 620.5 | 532.6 | 205.0 |
| Link Distance (m)     | 847.5 |      |       | 469.3 | 469.3 |       |
| Upstream Blk Time (%) |       |      |       | 3     | 12    |       |
| Queuing Penalty (veh) |       |      |       | 21    | 91    |       |
| Storage Bay Dist (m)  |       | 65.0 | 115.0 |       |       | 135.0 |
| Storage Blk Time (%)  |       |      | 0     |       | 1     | 65    |
| Queuing Penalty (veh) |       |      | 0     |       | 10    | 89    |

Intersection: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

| Movement              | EB   | EB    | EB   | WB   | WB    | NB   | NB    | NB    | SB    | SB    | SB   |
|-----------------------|------|-------|------|------|-------|------|-------|-------|-------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR    | L    | T     | TR    | LT    | T     | R    |
| Maximum Queue (m)     | 22.4 | 40.0  | 22.5 | 22.5 | 48.8  | 22.3 | 70.6  | 491.9 | 370.2 | 364.0 | 72.4 |
| Average Queue (m)     | 10.2 | 11.1  | 15.5 | 16.4 | 12.1  | 7.8  | 23.2  | 75.9  | 166.5 | 185.4 | 5.3  |
| 95th Queue (m)        | 19.8 | 36.0  | 25.4 | 26.8 | 37.9  | 20.3 | 55.6  | 309.1 | 374.8 | 389.1 | 35.4 |
| Link Distance (m)     |      | 232.4 |      |      | 104.9 |      | 469.3 | 469.3 | 360.0 | 360.0 |      |
| Upstream Blk Time (%) |      |       |      |      |       |      |       | 0     | 0     | 2     |      |
| Queuing Penalty (veh) |      |       |      |      |       |      |       | 1     | 2     | 14    |      |
| Storage Bay Dist (m)  | 15.0 |       | 15.0 | 15.0 |       | 70.0 |       |       |       |       | 65.0 |
| Storage Blk Time (%)  | 11   | 0     | 26   | 39   | 1     |      | 0     |       |       | 55    | 0    |
| Queuing Penalty (veh) | 12   | 0     | 12   | 2    | 1     |      | 0     |       |       | 6     | 0    |



Queuing and Blocking Report  
Future Background 2028 (12489) PM Peak Hour

07-24-2025

Intersection: 7: Dixie Road & UPS Facility Access/12173 West Access 1

| Movement              | EB    | WB   | NB    | NB    | SB    |
|-----------------------|-------|------|-------|-------|-------|
| Directions Served     | L     | R    | LT    | TR    | TR    |
| Maximum Queue (m)     | 7.6   | 8.2  | 74.4  | 84.2  | 361.8 |
| Average Queue (m)     | 0.7   | 1.8  | 30.0  | 27.3  | 19.9  |
| 95th Queue (m)        | 4.2   | 7.0  | 64.6  | 70.7  | 93.2  |
| Link Distance (m)     | 102.2 | 77.2 | 360.0 | 360.0 | 699.7 |
| Upstream Blk Time (%) |       |      |       |       |       |
| Queuing Penalty (veh) |       |      |       |       |       |
| Storage Bay Dist (m)  |       |      |       |       |       |
| Storage Blk Time (%)  |       |      |       |       |       |
| Queuing Penalty (veh) |       |      |       |       |       |

Intersection: 8: Dixie Road & 12489 Site Access 1

| Movement              |  |  |  |  |  |
|-----------------------|--|--|--|--|--|
| Directions Served     |  |  |  |  |  |
| Maximum Queue (m)     |  |  |  |  |  |
| Average Queue (m)     |  |  |  |  |  |
| 95th Queue (m)        |  |  |  |  |  |
| Link Distance (m)     |  |  |  |  |  |
| Upstream Blk Time (%) |  |  |  |  |  |
| Queuing Penalty (veh) |  |  |  |  |  |
| Storage Bay Dist (m)  |  |  |  |  |  |
| Storage Blk Time (%)  |  |  |  |  |  |
| Queuing Penalty (veh) |  |  |  |  |  |

Intersection: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

| Movement              | EB   | EB    | NB   | NB    | SB    |
|-----------------------|------|-------|------|-------|-------|
| Directions Served     | L    | TR    | L    | T     | T     |
| Maximum Queue (m)     | 19.5 | 20.2  | 20.7 | 88.8  | 190.8 |
| Average Queue (m)     | 10.2 | 9.2   | 4.5  | 22.7  | 67.1  |
| 95th Queue (m)        | 20.0 | 18.4  | 13.8 | 61.0  | 158.4 |
| Link Distance (m)     |      | 171.5 |      | 375.1 | 819.4 |
| Upstream Blk Time (%) |      |       |      |       |       |
| Queuing Penalty (veh) |      |       |      |       |       |
| Storage Bay Dist (m)  | 20.0 |       | 60.0 |       |       |
| Storage Blk Time (%)  | 2    | 1     |      | 1     | 6     |
| Queuing Penalty (veh) | 1    | 0     |      | 0     | 0     |

Queuing and Blocking Report  
Future Background 2028 (12489) PM Peak Hour

07-24-2025

Intersection: 11: Dixie Road & 12861 Site Access 1

| Movement              | WB   |
|-----------------------|------|
| Directions Served     | R    |
| Maximum Queue (m)     | 21.1 |
| Average Queue (m)     | 7.7  |
| 95th Queue (m)        | 16.8 |
| Link Distance (m)     | 89.6 |
| Upstream Blk Time (%) |      |
| Queuing Penalty (veh) |      |
| Storage Bay Dist (m)  |      |
| Storage Blk Time (%)  |      |
| Queuing Penalty (veh) |      |

Intersection: 12: Dixie Road & Old School Road

| Movement              | EB   | EB    | EB   | WB   | WB   | NB   | NB    | NB    | SB   | SB    | SB   |
|-----------------------|------|-------|------|------|------|------|-------|-------|------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR   | L    | T     | R     | L    | T     | R    |
| Maximum Queue (m)     | 41.4 | 41.0  | 34.4 | 43.0 | 65.2 | 83.2 | 140.8 | 124.9 | 21.7 | 104.9 | 26.1 |
| Average Queue (m)     | 21.8 | 26.4  | 11.5 | 33.2 | 60.1 | 33.5 | 69.2  | 11.2  | 5.1  | 50.6  | 7.1  |
| 95th Queue (m)        | 35.4 | 40.4  | 21.4 | 51.6 | 75.5 | 67.1 | 118.4 | 48.1  | 15.3 | 89.5  | 17.1 |
| Link Distance (m)     |      | 382.3 |      |      | 43.2 |      | 215.0 |       |      | 274.1 |      |
| Upstream Blk Time (%) |      |       |      | 2    | 20   |      |       |       |      |       |      |
| Queuing Penalty (veh) |      |       |      | 0    | 109  |      |       |       |      |       |      |
| Storage Bay Dist (m)  | 75.0 |       | 75.0 | 65.0 |      | 75.0 |       | 50.0  | 75.0 |       | 75.0 |
| Storage Blk Time (%)  |      |       |      | 2    | 20   | 2    | 15    |       |      | 2     |      |
| Queuing Penalty (veh) |      |       |      | 7    | 38   | 13   | 27    |       |      | 2     |      |

Intersection: 13: 12861 Site Access 2 & Old School Road

| Movement              | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|
| Directions Served     | T     | T     | R     |
| Maximum Queue (m)     | 52.8  | 46.5  | 8.3   |
| Average Queue (m)     | 21.6  | 19.0  | 2.2   |
| 95th Queue (m)        | 47.6  | 46.8  | 8.0   |
| Link Distance (m)     | 439.5 | 439.5 | 166.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

Queuing and Blocking Report  
Future Background 2028 (12489) PM Peak Hour

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Intersection: 14: 12861 Site Access 3 & Old School Road

| Movement              | EB    | EB    | WB   | WB    | WB    | NB    |
|-----------------------|-------|-------|------|-------|-------|-------|
| Directions Served     | T     | T     | L    | T     | T     | LR    |
| Maximum Queue (m)     | 47.9  | 41.4  | 15.1 | 67.3  | 56.2  | 31.3  |
| Average Queue (m)     | 21.5  | 25.6  | 2.4  | 45.6  | 31.0  | 10.7  |
| 95th Queue (m)        | 35.5  | 36.3  | 9.6  | 63.6  | 56.9  | 25.1  |
| Link Distance (m)     | 439.5 | 439.5 |      | 174.8 | 174.8 | 189.2 |
| Upstream Blk Time (%) |       |       |      |       |       |       |
| Queuing Penalty (veh) |       |       |      |       |       |       |
| Storage Bay Dist (m)  |       |       | 95.0 |       |       |       |
| Storage Blk Time (%)  |       |       |      |       |       |       |
| Queuing Penalty (veh) |       |       |      |       |       |       |

Intersection: 15: Bramalea Road & Old School Road

| Movement              | EB    | WB   | NB    | SB    |
|-----------------------|-------|------|-------|-------|
| Directions Served     | LTR   | LTR  | LTR   | LTR   |
| Maximum Queue (m)     | 22.7  | 34.4 | 22.5  | 16.0  |
| Average Queue (m)     | 16.0  | 17.7 | 15.1  | 9.4   |
| 95th Queue (m)        | 22.7  | 25.5 | 21.7  | 17.0  |
| Link Distance (m)     | 120.6 | 90.4 | 175.7 | 122.2 |
| Upstream Blk Time (%) |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |
| Storage Bay Dist (m)  |       |      |       |       |
| Storage Blk Time (%)  |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |

Network Summary

Network wide Queuing Penalty: 486

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | EBL   | EBT  | EBR  | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|--------------------|-------|------|------|------|------|-----|------|------|-----|------|------|-----|
| Denied Del/Veh (s) | 0.7   | 0.4  | 0.6  | 2.8  | 0.2  | 2.5 | 0.7  | 0.1  | 0.7 | 0.0  | 0.0  | 0.1 |
| Total Del/Veh (s)  | 164.0 | 34.3 | 13.4 | 46.3 | 45.9 | 7.9 | 46.7 | 46.5 | 3.1 | 63.8 | 47.1 | 6.5 |
| Stop Del/Veh (s)   | 120.0 | 16.5 | 0.3  | 43.7 | 38.4 | 4.2 | 42.6 | 40.9 | 0.2 | 59.0 | 41.2 | 1.2 |

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.5  |
| Total Del/Veh (s)  | 55.5 |
| Stop Del/Veh (s)   | 39.0 |

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Performance by movement

| Movement           | EBL  | EBR | WBL  | WBR  | NBL  | NBT | NBR | SBL  | SBT | SBR | All |
|--------------------|------|-----|------|------|------|-----|-----|------|-----|-----|-----|
| Denied Del/Veh (s) | 4.1  | 4.1 | 4.2  | 0.1  | 0.0  | 0.0 | 0.0 | 0.0  | 0.0 | 0.0 | 0.2 |
| Total Del/Veh (s)  | 58.9 | 7.8 | 53.5 | 23.1 | 18.6 | 8.2 | 8.8 | 24.1 | 4.2 | 3.0 | 8.5 |
| Stop Del/Veh (s)   | 56.5 | 7.5 | 49.6 | 19.9 | 12.7 | 2.7 | 1.4 | 18.3 | 1.5 | 0.7 | 4.1 |

### 7: Dixie Road & UPS Facility Access/12173 West Access 1 Performance by movement

| Movement           | EBR | NBL | NBT | NBR  | SBL  | SBT | SBR | All |
|--------------------|-----|-----|-----|------|------|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.0 | 0.0 | 0.0  | 0.0  | 0.1 | 0.0 | 0.0 |
| Total Del/Veh (s)  | 8.9 | 9.6 | 9.8 | 13.0 | 24.0 | 8.2 | 9.0 | 9.3 |
| Stop Del/Veh (s)   | 8.6 | 5.7 | 3.9 | 5.8  | 14.3 | 1.3 | 2.3 | 3.1 |

### 8: Dixie Road & 12489 Site Access 1 Performance by movement

| Movement           | NBT | NBR | SBT | All |
|--------------------|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s)  | 7.2 | 7.1 | 3.4 | 5.7 |
| Stop Del/Veh (s)   | 0.7 | 0.6 | 0.1 | 0.5 |

### 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Performance by movement

| Movement           | EBL  | EBR  | WBL  | WBR  | NBL  | NBT | NBR | SBL  | SBT | SBR | All |
|--------------------|------|------|------|------|------|-----|-----|------|-----|-----|-----|
| Denied Del/Veh (s) | 4.2  | 0.1  | 4.1  | 0.3  | 0.0  | 0.0 | 0.1 | 0.0  | 0.0 | 0.0 | 0.2 |
| Total Del/Veh (s)  | 57.2 | 11.9 | 58.9 | 21.5 | 15.3 | 6.4 | 4.3 | 13.1 | 8.4 | 6.9 | 9.2 |
| Stop Del/Veh (s)   | 52.1 | 8.3  | 54.5 | 17.3 | 9.5  | 1.4 | 0.5 | 5.3  | 1.7 | 0.3 | 3.6 |

### 11: Dixie Road & 12861 Site Access 1 Performance by movement

| Movement           | WBR  | NBT | NBR | SBT | All |
|--------------------|------|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1  | 0.1 | 0.4 | 0.4 | 0.3 |
| Total Del/Veh (s)  | 12.6 | 7.7 | 7.1 | 2.9 | 5.6 |
| Stop Del/Veh (s)   | 9.0  | 0.0 | 0.1 | 0.2 | 0.2 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT | NBR | SBL  | SBT  | SBR |
|--------------------|------|------|------|------|------|------|------|-----|-----|------|------|-----|
| Denied Del/Veh (s) | 2.9  | 0.6  | 2.9  | 0.2  | 0.0  | 0.0  | 0.0  | 0.0 | 0.0 | 3.3  | 1.2  | 3.2 |
| Total Del/Veh (s)  | 40.0 | 43.5 | 13.3 | 45.0 | 38.8 | 15.7 | 26.9 | 3.6 | 4.1 | 18.1 | 16.7 | 3.4 |
| Stop Del/Veh (s)   | 35.9 | 36.8 | 9.8  | 42.0 | 37.0 | 13.8 | 22.3 | 2.3 | 2.0 | 13.7 | 10.9 | 1.2 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.9  |
| Total Del/Veh (s)  | 16.6 |
| Stop Del/Veh (s)   | 12.8 |

### 13: 12861 Site Access 2 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBT | NBR | All |
|--------------------|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Total Del/Veh (s)  | 1.6 | 1.7 | 3.9 | 7.4 | 1.9 |
| Stop Del/Veh (s)   | 0.1 | 0.3 | 0.6 | 3.4 | 0.2 |

### 14: 12861 Site Access 3 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBL    | WBT    | NBL  | NBR  | All   |
|--------------------|-----|-----|--------|--------|------|------|-------|
| Denied Del/Veh (s) | 0.0 | 2.4 | 1490.1 | 1760.3 | 0.1  | 0.4  | 706.8 |
| Total Del/Veh (s)  | 1.7 | 1.0 | 3535.5 | 3587.2 | 54.1 | 28.8 | 384.3 |
| Stop Del/Veh (s)   | 0.5 | 0.0 | 3535.6 | 3586.9 | 49.1 | 21.8 | 382.7 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | EBL | EBT  | EBR | WBL | WBT | NBL | NBT | NBR | SBL | SBT | SBR | All |
|--------------------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.4 | 0.3  | 0.3 | 0.2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.4 | 0.2 | 0.2 | 0.2 |
| Total Del/Veh (s)  | 9.8 | 10.0 | 9.6 | 7.8 | 7.9 | 7.4 | 7.1 | 7.4 | 9.7 | 8.2 | 8.6 | 8.7 |
| Stop Del/Veh (s)   | 3.9 | 4.7  | 4.1 | 3.4 | 3.3 | 3.3 | 3.1 | 3.1 | 4.8 | 3.6 | 3.5 | 3.8 |

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Total Network Performance

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|                    |      |
|--------------------|------|
|                    |      |
| Denied Del/Veh (s) | 72.9 |
| Total Del/Veh (s)  | 84.1 |
| Stop Del/Veh (s)   | 60.7 |

Queuing and Blocking Report  
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Intersection: 1: Dixie Road & Mayfield Road

| Movement              | EB    | EB    | EB    | EB    | EB    | EB    | WB    | WB    | WB    | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Directions Served     | L     | L     | T     | T     | T     | R     | L     | T     | T     | T     | R     | L     |
| Maximum Queue (m)     | 137.5 | 159.9 | 763.5 | 735.8 | 668.5 | 129.9 | 44.5  | 138.9 | 125.7 | 105.2 | 72.0  | 52.1  |
| Average Queue (m)     | 135.6 | 157.3 | 455.7 | 381.6 | 236.6 | 4.6   | 16.5  | 93.5  | 81.0  | 57.4  | 20.0  | 27.6  |
| 95th Queue (m)        | 142.8 | 171.2 | 742.7 | 757.2 | 572.4 | 44.4  | 36.2  | 120.9 | 111.1 | 85.8  | 60.0  | 44.9  |
| Link Distance (m)     |       |       | 988.7 | 988.7 | 988.7 |       |       | 280.2 | 280.2 | 280.2 |       |       |
| Upstream Blk Time (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |       |       |       |       |       |       |       |
| Storage Bay Dist (m)  | 115.0 | 115.0 |       |       |       | 75.0  | 115.0 |       |       |       | 110.0 | 115.0 |
| Storage Blk Time (%)  | 26    | 49    |       |       | 13    |       |       | 2     |       | 0     |       |       |
| Queuing Penalty (veh) | 155   | 297   |       |       | 37    |       |       | 1     |       | 0     |       |       |

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | NB    | NB    | NB   | SB    | SB    | SB    | SB    |
|-----------------------|-------|-------|------|-------|-------|-------|-------|
| Directions Served     | T     | T     | R    | L     | T     | T     | R     |
| Maximum Queue (m)     | 56.8  | 64.2  | 15.5 | 85.5  | 82.7  | 83.9  | 56.6  |
| Average Queue (m)     | 40.1  | 41.2  | 2.0  | 31.8  | 38.3  | 38.3  | 14.6  |
| 95th Queue (m)        | 59.2  | 62.7  | 10.3 | 62.8  | 71.3  | 71.7  | 44.3  |
| Link Distance (m)     | 847.5 | 847.5 |      |       | 469.3 | 469.3 |       |
| Upstream Blk Time (%) |       |       |      |       |       |       |       |
| Queuing Penalty (veh) |       |       |      |       |       |       |       |
| Storage Bay Dist (m)  |       |       | 65.0 | 115.0 |       |       | 135.0 |
| Storage Blk Time (%)  |       | 0     |      |       |       |       |       |
| Queuing Penalty (veh) |       | 0     |      |       |       |       |       |

Intersection: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

| Movement              | EB   | EB    | EB   | WB   | WB    | NB   | NB    | NB    | SB    | SB    | SB   |
|-----------------------|------|-------|------|------|-------|------|-------|-------|-------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR    | L    | T     | TR    | LT    | T     | R    |
| Maximum Queue (m)     | 13.9 | 6.9   | 20.4 | 23.3 | 41.3  | 40.0 | 63.7  | 474.1 | 49.5  | 69.8  | 5.7  |
| Average Queue (m)     | 5.5  | 0.2   | 10.5 | 10.8 | 3.8   | 14.4 | 18.5  | 37.7  | 13.4  | 17.1  | 1.0  |
| 95th Queue (m)        | 14.6 | 2.4   | 19.5 | 24.3 | 19.4  | 29.1 | 53.0  | 180.6 | 34.4  | 47.7  | 4.2  |
| Link Distance (m)     |      | 232.4 |      |      | 104.9 |      | 469.3 | 469.3 | 360.0 | 360.0 |      |
| Upstream Blk Time (%) |      |       |      |      |       |      |       | 0     |       |       |      |
| Queuing Penalty (veh) |      |       |      |      |       |      |       | 1     |       |       |      |
| Storage Bay Dist (m)  | 15.0 |       | 15.0 | 15.0 |       | 70.0 |       |       |       |       | 65.0 |
| Storage Blk Time (%)  | 8    |       | 2    | 25   | 2     |      |       |       |       | 0     |      |
| Queuing Penalty (veh) | 5    |       | 0    | 1    | 1     |      |       |       |       | 0     |      |

Queuing and Blocking Report  
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Intersection: 7: Dixie Road & UPS Facility Access/12173 West Access 1

| Movement              | EB    | NB    | NB    | SB    |
|-----------------------|-------|-------|-------|-------|
| Directions Served     | R     | LT    | TR    | LTR   |
| Maximum Queue (m)     | 19.6  | 66.6  | 81.1  | 121.2 |
| Average Queue (m)     | 3.8   | 33.4  | 35.5  | 11.9  |
| 95th Queue (m)        | 14.3  | 57.0  | 68.5  | 57.0  |
| Link Distance (m)     | 102.2 | 360.0 | 360.0 | 699.7 |
| Upstream Blk Time (%) |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |

Intersection: 8: Dixie Road & 12489 Site Access 1

| Movement              |  |  |  |  |
|-----------------------|--|--|--|--|
| Directions Served     |  |  |  |  |
| Maximum Queue (m)     |  |  |  |  |
| Average Queue (m)     |  |  |  |  |
| 95th Queue (m)        |  |  |  |  |
| Link Distance (m)     |  |  |  |  |
| Upstream Blk Time (%) |  |  |  |  |
| Queuing Penalty (veh) |  |  |  |  |
| Storage Bay Dist (m)  |  |  |  |  |
| Storage Blk Time (%)  |  |  |  |  |
| Queuing Penalty (veh) |  |  |  |  |

Intersection: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

| Movement              | EB   | EB    | WB   | WB    | NB   | NB    | NB   | SB   | SB    | SB   |
|-----------------------|------|-------|------|-------|------|-------|------|------|-------|------|
| Directions Served     | L    | TR    | L    | TR    | L    | T     | R    | L    | T     | R    |
| Maximum Queue (m)     | 15.4 | 28.0  | 26.7 | 42.7  | 40.8 | 108.6 | 19.9 | 21.0 | 78.7  | 8.6  |
| Average Queue (m)     | 2.8  | 8.2   | 14.8 | 6.0   | 12.6 | 26.9  | 2.9  | 6.0  | 27.2  | 0.6  |
| 95th Queue (m)        | 10.9 | 20.2  | 27.4 | 25.4  | 28.8 | 76.3  | 12.5 | 15.5 | 71.9  | 4.3  |
| Link Distance (m)     |      | 171.5 |      | 134.0 |      | 375.1 |      |      | 819.4 |      |
| Upstream Blk Time (%) |      |       |      |       |      |       |      |      |       |      |
| Queuing Penalty (veh) |      |       |      |       |      |       |      |      |       |      |
| Storage Bay Dist (m)  | 20.0 |       | 20.0 |       | 60.0 |       | 60.0 | 60.0 |       | 60.0 |
| Storage Blk Time (%)  | 0    | 1     | 17   | 0     |      | 2     |      |      | 2     |      |
| Queuing Penalty (veh) | 0    | 0     | 3    | 0     |      | 2     |      |      | 2     |      |



Queuing and Blocking Report  
Future Total 2028 AM Peak Hour

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Intersection: 11: Dixie Road & 12861 Site Access 1

| Movement              | WB   |
|-----------------------|------|
| Directions Served     | R    |
| Maximum Queue (m)     | 25.9 |
| Average Queue (m)     | 7.3  |
| 95th Queue (m)        | 18.7 |
| Link Distance (m)     | 89.6 |
| Upstream Blk Time (%) |      |
| Queuing Penalty (veh) |      |
| Storage Bay Dist (m)  |      |
| Storage Blk Time (%)  |      |
| Queuing Penalty (veh) |      |

Intersection: 12: Dixie Road & Old School Road

| Movement              | EB   | EB    | EB   | WB   | WB   | NB   | NB    | NB   | SB   | SB    | SB   |
|-----------------------|------|-------|------|------|------|------|-------|------|------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR   | L    | T     | R    | L    | T     | R    |
| Maximum Queue (m)     | 32.4 | 97.0  | 28.1 | 37.0 | 22.6 | 28.6 | 51.4  | 12.8 | 27.2 | 130.2 | 14.6 |
| Average Queue (m)     | 12.7 | 58.0  | 10.9 | 15.5 | 9.1  | 14.7 | 15.1  | 3.1  | 7.6  | 66.6  | 7.1  |
| 95th Queue (m)        | 28.5 | 86.4  | 18.6 | 32.1 | 21.5 | 29.7 | 35.6  | 9.2  | 18.7 | 112.7 | 13.7 |
| Link Distance (m)     |      | 382.3 |      |      | 43.2 |      | 215.0 |      |      | 274.1 |      |
| Upstream Blk Time (%) |      |       |      |      |      |      |       |      |      |       |      |
| Queuing Penalty (veh) |      |       |      |      |      |      |       |      |      |       |      |
| Storage Bay Dist (m)  | 75.0 |       | 75.0 | 65.0 |      | 75.0 |       | 50.0 | 75.0 |       | 75.0 |
| Storage Blk Time (%)  |      | 4     |      |      |      |      | 1     |      |      | 5     |      |
| Queuing Penalty (veh) |      | 5     |      |      |      |      | 1     |      |      | 13    |      |

Intersection: 13: 12861 Site Access 2 & Old School Road

| Movement              | NB    |
|-----------------------|-------|
| Directions Served     | R     |
| Maximum Queue (m)     | 8.4   |
| Average Queue (m)     | 0.9   |
| 95th Queue (m)        | 5.1   |
| Link Distance (m)     | 166.2 |
| Upstream Blk Time (%) |       |
| Queuing Penalty (veh) |       |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

Queuing and Blocking Report  
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Intersection: 14: 12861 Site Access 3 & Old School Road

| Movement              | EB    | EB    | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|
| Directions Served     | T     | T     | T     | T     | LR    |
| Maximum Queue (m)     | 15.7  | 16.6  | 179.4 | 175.6 | 48.7  |
| Average Queue (m)     | 3.5   | 2.9   | 176.2 | 171.5 | 22.2  |
| 95th Queue (m)        | 11.9  | 11.2  | 177.6 | 174.3 | 42.8  |
| Link Distance (m)     | 439.5 | 439.5 | 174.8 | 174.8 | 189.2 |
| Upstream Blk Time (%) |       |       | 96    | 96    |       |
| Queuing Penalty (veh) |       |       | 0     | 0     |       |
| Storage Bay Dist (m)  |       |       |       |       |       |
| Storage Blk Time (%)  |       |       | 100   |       |       |
| Queuing Penalty (veh) |       |       | 30    |       |       |

Intersection: 15: Bramalea Road & Old School Road

| Movement              | EB    | WB   | NB    | SB    |
|-----------------------|-------|------|-------|-------|
| Directions Served     | LTR   | LTR  | LTR   | LTR   |
| Maximum Queue (m)     | 58.4  | 28.1 | 21.8  | 22.7  |
| Average Queue (m)     | 21.4  | 14.7 | 10.1  | 14.9  |
| 95th Queue (m)        | 40.0  | 22.8 | 16.9  | 22.9  |
| Link Distance (m)     | 120.6 | 90.4 | 175.7 | 122.2 |
| Upstream Blk Time (%) |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |
| Storage Bay Dist (m)  |       |      |       |       |
| Storage Blk Time (%)  |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |

Network Summary

Network wide Queuing Penalty: 555

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | EBL   | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR   |
|--------------------|-------|------|-----|------|------|-----|------|------|-----|------|------|-------|
| Denied Del/Veh (s) | 1.1   | 0.3  | 0.8 | 2.1  | 0.2  | 2.2 | 1.5  | 0.2  | 2.0 | 12.4 | 8.7  | 12.6  |
| Total Del/Veh (s)  | 145.1 | 30.3 | 7.3 | 41.1 | 71.1 | 6.3 | 81.0 | 46.2 | 3.3 | 94.6 | 55.8 | 184.9 |
| Stop Del/Veh (s)   | 115.3 | 14.8 | 0.0 | 33.0 | 52.1 | 1.0 | 74.2 | 38.3 | 0.0 | 83.0 | 40.5 | 141.9 |

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 2.9  |
| Total Del/Veh (s)  | 79.9 |
| Stop Del/Veh (s)   | 59.4 |

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Performance by movement

| Movement           | EBL  | EBR  | WBL  | WBR | NBL  | NBT  | NBR  | SBL   | SBT   | SBR   | All   |
|--------------------|------|------|------|-----|------|------|------|-------|-------|-------|-------|
| Denied Del/Veh (s) | 3.9  | 4.0  | 4.0  | 0.6 | 0.0  | 0.0  | 0.0  | 0.0   | 14.2  | 0.0   | 7.2   |
| Total Del/Veh (s)  | 49.4 | 27.3 | 63.4 | 6.8 | 32.6 | 18.8 | 10.6 | 219.6 | 190.6 | 179.1 | 104.2 |
| Stop Del/Veh (s)   | 46.5 | 26.4 | 60.2 | 5.6 | 25.5 | 4.6  | 1.5  | 195.4 | 173.0 | 171.0 | 89.8  |

### 7: Dixie Road & UPS Facility Access/12173 West Access 1 Performance by movement

| Movement           | EBL  | WBR  | NBL  | NBT  | NBR  | SBT   | SBR   | All  |
|--------------------|------|------|------|------|------|-------|-------|------|
| Denied Del/Veh (s) | 0.1  | 0.1  | 0.0  | 0.0  | 0.0  | 57.1  | 122.3 | 32.2 |
| Total Del/Veh (s)  | 49.6 | 30.1 | 37.4 | 13.0 | 10.6 | 155.6 | 127.4 | 91.6 |
| Stop Del/Veh (s)   | 48.0 | 29.8 | 29.0 | 3.8  | 3.6  | 94.0  | 69.8  | 53.8 |

### 8: Dixie Road & 12489 Site Access 1 Performance by movement

| Movement           | NBT | NBR | SBT  | All  |
|--------------------|-----|-----|------|------|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0  | 0.0  |
| Total Del/Veh (s)  | 8.4 | 8.0 | 72.1 | 44.9 |
| Stop Del/Veh (s)   | 0.6 | 0.2 | 42.7 | 24.7 |

### 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Performance by movement

| Movement           | EBL  | EBR  | WBL  | WBR  | NBL  | NBT  | NBR | SBL   | SBT   | SBR   | All  |
|--------------------|------|------|------|------|------|------|-----|-------|-------|-------|------|
| Denied Del/Veh (s) | 4.1  | 0.2  | 4.0  | 0.2  | 0.3  | 0.0  | 0.1 | 0.0   | 3.5   | 0.0   | 2.0  |
| Total Del/Veh (s)  | 40.7 | 36.5 | 56.4 | 16.2 | 42.7 | 11.3 | 3.8 | 168.9 | 134.0 | 170.8 | 78.4 |
| Stop Del/Veh (s)   | 37.2 | 34.8 | 53.4 | 15.3 | 38.9 | 2.6  | 0.2 | 137.0 | 92.2  | 145.8 | 53.2 |

### 11: Dixie Road & 12861 Site Access 1 Performance by movement

| Movement           | WBR  | NBT  | NBR  | SBT  | All  |
|--------------------|------|------|------|------|------|
| Denied Del/Veh (s) | 0.1  | 0.1  | 0.0  | 45.6 | 26.0 |
| Total Del/Veh (s)  | 15.6 | 13.1 | 10.4 | 17.0 | 15.2 |
| Stop Del/Veh (s)   | 15.0 | 0.1  | 0.2  | 10.1 | 6.0  |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|--------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Denied Del/Veh (s) | 3.5  | 0.6  | 3.6 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0 | 3.3  | 0.6  | 3.6 |
| Total Del/Veh (s)  | 34.9 | 24.5 | 6.6 | 35.0 | 29.1 | 19.2 | 59.1 | 27.1 | 6.2 | 60.8 | 21.7 | 9.3 |
| Stop Del/Veh (s)   | 31.2 | 19.4 | 5.4 | 31.5 | 24.0 | 16.8 | 53.8 | 15.1 | 2.5 | 56.2 | 12.7 | 7.3 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.6  |
| Total Del/Veh (s)  | 26.5 |
| Stop Del/Veh (s)   | 19.4 |

### 13: 12861 Site Access 2 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBT  | NBR | All  |
|--------------------|-----|-----|------|-----|------|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0  | 0.1 | 0.0  |
| Total Del/Veh (s)  | 1.0 | 1.7 | 19.2 | 2.6 | 13.0 |
| Stop Del/Veh (s)   | 0.3 | 1.1 | 13.5 | 2.5 | 9.0  |

### 14: 12861 Site Access 3 & Old School Road Performance by movement

| Movement           | EBT  | WBL  | WBT  | NBL | NBR | All  |
|--------------------|------|------|------|-----|-----|------|
| Denied Del/Veh (s) | 0.0  | 4.0  | 0.1  | 0.2 | 0.1 | 0.1  |
| Total Del/Veh (s)  | 27.2 | 24.9 | 29.7 | 7.5 | 4.6 | 25.9 |
| Stop Del/Veh (s)   | 21.1 | 19.6 | 21.9 | 6.1 | 4.1 | 19.5 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | EBL | EBT  | EBR | WBL  | WBT  | WBR | NBL | NBT  | NBR | SBL | SBT  | SBR |
|--------------------|-----|------|-----|------|------|-----|-----|------|-----|-----|------|-----|
| Denied Del/Veh (s) | 0.4 | 0.3  | 0.4 | 0.6  | 0.4  | 0.8 | 0.4 | 0.4  | 0.2 | 0.1 | 0.2  | 0.1 |
| Total Del/Veh (s)  | 8.9 | 11.9 | 6.4 | 10.4 | 12.5 | 9.4 | 9.5 | 13.0 | 6.4 | 3.8 | 10.7 | 3.8 |
| Stop Del/Veh (s)   | 5.0 | 4.6  | 3.8 | 6.2  | 5.6  | 7.0 | 4.7 | 4.8  | 3.8 | 2.7 | 4.4  | 3.7 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.4  |
| Total Del/Veh (s)  | 11.4 |
| Stop Del/Veh (s)   | 4.9  |

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Total Network Performance

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|                    |       |
|--------------------|-------|
| Denied Del/Veh (s) | 20.2  |
| Total Del/Veh (s)  | 158.0 |
| Stop Del/Veh (s)   | 108.8 |

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Intersection: 1: Dixie Road & Mayfield Road

| Movement              | EB    | EB    | EB    | EB    | EB    | WB    | WB    | WB    | WB    | WB    | NB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Directions Served     | L     | L     | T     | T     | T     | L     | T     | T     | T     | R     | L     | T     |
| Maximum Queue (m)     | 137.5 | 160.0 | 533.6 | 480.5 | 120.9 | 184.3 | 199.4 | 195.5 | 178.6 | 48.1  | 134.8 | 45.2  |
| Average Queue (m)     | 123.1 | 140.2 | 224.6 | 200.8 | 71.6  | 22.6  | 148.8 | 141.2 | 113.6 | 4.4   | 57.4  | 21.1  |
| 95th Queue (m)        | 164.6 | 189.9 | 472.6 | 427.8 | 112.4 | 97.0  | 193.0 | 188.1 | 159.2 | 25.4  | 103.7 | 38.1  |
| Link Distance (m)     |       |       | 988.7 | 988.7 | 988.7 |       | 280.2 | 280.2 | 280.2 |       |       | 847.5 |
| Upstream Blk Time (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |       |       |       |       |       |       |       |
| Storage Bay Dist (m)  | 115.0 | 115.0 |       |       |       | 115.0 |       |       |       | 110.0 | 115.0 |       |
| Storage Blk Time (%)  | 21    | 41    | 0     |       | 8     |       | 29    |       | 4     |       | 1     |       |
| Queuing Penalty (veh) | 106   | 204   | 0     |       | 14    |       | 17    |       | 5     |       | 2     |       |

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | NB    | SB    | SB    | SB    | SB    |
|-----------------------|-------|-------|-------|-------|-------|
| Directions Served     | T     | L     | T     | T     | R     |
| Maximum Queue (m)     | 43.5  | 115.8 | 469.0 | 476.4 | 205.0 |
| Average Queue (m)     | 25.3  | 50.8  | 115.3 | 464.9 | 205.0 |
| 95th Queue (m)        | 39.1  | 105.2 | 403.9 | 502.2 | 205.0 |
| Link Distance (m)     | 847.5 |       | 469.3 | 469.3 |       |
| Upstream Blk Time (%) |       |       | 0     | 8     |       |
| Queuing Penalty (veh) |       |       | 0     | 62    |       |
| Storage Bay Dist (m)  |       | 115.0 |       |       | 135.0 |
| Storage Blk Time (%)  |       | 1     |       |       | 64    |
| Queuing Penalty (veh) |       | 2     |       |       | 94    |

Intersection: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

| Movement              | EB   | EB    | EB   | WB   | WB    | NB   | NB    | NB    | SB    | SB    | SB   |
|-----------------------|------|-------|------|------|-------|------|-------|-------|-------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR    | L    | T     | TR    | LT    | T     | R    |
| Maximum Queue (m)     | 21.7 | 37.5  | 22.4 | 22.7 | 64.9  | 26.8 | 87.0  | 507.8 | 361.9 | 370.8 | 72.5 |
| Average Queue (m)     | 9.6  | 8.0   | 14.9 | 16.5 | 14.7  | 6.9  | 23.7  | 89.8  | 278.6 | 324.1 | 7.7  |
| 95th Queue (m)        | 18.1 | 27.1  | 22.3 | 28.1 | 48.6  | 18.2 | 66.1  | 322.3 | 465.4 | 464.0 | 44.3 |
| Link Distance (m)     |      | 232.4 |      |      | 101.5 |      | 469.3 | 469.3 | 359.7 | 359.7 |      |
| Upstream Blk Time (%) |      |       |      |      |       |      |       | 1     | 1     | 12    |      |
| Queuing Penalty (veh) |      |       |      |      |       |      |       | 6     | 10    | 90    |      |
| Storage Bay Dist (m)  | 15.0 |       | 15.0 | 15.0 |       | 70.0 |       |       |       |       | 65.0 |
| Storage Blk Time (%)  | 12   | 1     | 27   | 43   | 4     |      | 1     |       |       | 78    | 0    |
| Queuing Penalty (veh) | 13   | 1     | 12   | 2    | 3     |      | 0     |       |       | 8     | 0    |

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Intersection: 7: Dixie Road & UPS Facility Access/12173 West Access 1

| Movement              | EB    | WB   | NB    | NB    | NB    | SB     |
|-----------------------|-------|------|-------|-------|-------|--------|
| Directions Served     | L     | R    | L     | T     | TR    | TR     |
| Maximum Queue (m)     | 7.7   | 13.9 | 21.8  | 72.8  | 60.5  | 735.3  |
| Average Queue (m)     | 0.9   | 3.2  | 7.0   | 20.7  | 21.6  | 517.9  |
| 95th Queue (m)        | 4.8   | 10.1 | 16.6  | 59.6  | 60.9  | 1014.1 |
| Link Distance (m)     | 100.4 | 75.4 | 359.7 | 359.7 | 359.7 | 699.4  |
| Upstream Blk Time (%) |       |      |       |       |       | 36     |
| Queuing Penalty (veh) |       |      |       |       |       | 494    |
| Storage Bay Dist (m)  |       |      |       |       |       |        |
| Storage Blk Time (%)  |       |      |       |       |       |        |
| Queuing Penalty (veh) |       |      |       |       |       |        |

Intersection: 8: Dixie Road & 12489 Site Access 1

| Movement              | SB    |
|-----------------------|-------|
| Directions Served     | LT    |
| Maximum Queue (m)     | 375.9 |
| Average Queue (m)     | 199.9 |
| 95th Queue (m)        | 482.0 |
| Link Distance (m)     | 375.1 |
| Upstream Blk Time (%) | 1     |
| Queuing Penalty (veh) | 20    |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

Intersection: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

| Movement              | EB   | EB    | WB   | WB    | NB   | NB    | NB   | SB    | SB    |
|-----------------------|------|-------|------|-------|------|-------|------|-------|-------|
| Directions Served     | L    | TR    | L    | TR    | L    | T     | R    | L     | T     |
| Maximum Queue (m)     | 27.0 | 39.7  | 27.3 | 60.1  | 22.0 | 118.9 | 14.9 | 154.8 | 852.9 |
| Average Queue (m)     | 6.5  | 14.8  | 18.1 | 14.2  | 8.0  | 41.3  | 1.3  | 9.4   | 403.9 |
| 95th Queue (m)        | 18.4 | 31.8  | 30.2 | 36.7  | 21.2 | 95.9  | 7.6  | 57.0  | 946.0 |
| Link Distance (m)     |      | 171.5 |      | 134.0 |      | 375.1 |      |       | 819.4 |
| Upstream Blk Time (%) |      |       |      |       |      |       |      |       | 22    |
| Queuing Penalty (veh) |      |       |      |       |      |       |      |       | 274   |
| Storage Bay Dist (m)  | 20.0 |       | 20.0 |       | 60.0 |       | 60.0 | 60.0  |       |
| Storage Blk Time (%)  | 1    | 11    | 24   | 4     |      | 3     |      |       | 37    |
| Queuing Penalty (veh) | 1    | 4     | 13   | 3     |      | 1     |      |       | 7     |

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Intersection: 11: Dixie Road & 12861 Site Access 1

| Movement              | WB   | SB    |
|-----------------------|------|-------|
| Directions Served     | R    | T     |
| Maximum Queue (m)     | 22.9 | 215.0 |
| Average Queue (m)     | 10.1 | 39.7  |
| 95th Queue (m)        | 19.0 | 147.6 |
| Link Distance (m)     | 89.6 | 215.0 |
| Upstream Blk Time (%) |      | 0     |
| Queuing Penalty (veh) |      | 1     |
| Storage Bay Dist (m)  |      |       |
| Storage Blk Time (%)  |      |       |
| Queuing Penalty (veh) |      |       |

Intersection: 12: Dixie Road & Old School Road

| Movement              | EB   | EB    | EB   | WB   | WB   | NB   | NB    | NB   | SB   | SB    | SB   |
|-----------------------|------|-------|------|------|------|------|-------|------|------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR   | L    | T     | R    | L    | T     | R    |
| Maximum Queue (m)     | 52.9 | 52.8  | 21.6 | 43.1 | 71.2 | 99.8 | 111.8 | 21.0 | 41.0 | 78.0  | 26.2 |
| Average Queue (m)     | 21.9 | 21.2  | 9.5  | 34.2 | 64.9 | 36.0 | 81.4  | 7.7  | 11.3 | 43.4  | 5.5  |
| 95th Queue (m)        | 40.3 | 40.4  | 17.3 | 52.7 | 70.4 | 69.3 | 113.9 | 17.5 | 30.2 | 71.3  | 15.1 |
| Link Distance (m)     |      | 382.3 |      |      | 43.2 |      | 215.0 |      |      | 274.1 |      |
| Upstream Blk Time (%) |      |       |      | 1    | 25   |      |       |      |      |       |      |
| Queuing Penalty (veh) |      |       |      | 0    | 147  |      |       |      |      |       |      |
| Storage Bay Dist (m)  | 75.0 |       | 75.0 | 65.0 |      | 75.0 |       | 50.0 | 75.0 |       | 75.0 |
| Storage Blk Time (%)  |      |       |      | 1    | 25   | 2    | 20    |      |      | 0     |      |
| Queuing Penalty (veh) |      |       |      | 5    | 49   | 17   | 42    |      |      | 0     |      |

Intersection: 13: 12861 Site Access 2 & Old School Road

| Movement              | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|
| Directions Served     | T     | T     | R     |
| Maximum Queue (m)     | 88.6  | 82.7  | 8.3   |
| Average Queue (m)     | 31.3  | 27.5  | 2.2   |
| 95th Queue (m)        | 70.4  | 64.0  | 8.0   |
| Link Distance (m)     | 439.5 | 439.5 | 166.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |



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Intersection: 14: 12861 Site Access 3 & Old School Road

| Movement              | EB    | EB    | WB   | WB    | WB    | NB    |
|-----------------------|-------|-------|------|-------|-------|-------|
| Directions Served     | T     | T     | L    | T     | T     | LR    |
| Maximum Queue (m)     | 41.2  | 48.2  | 20.4 | 71.4  | 64.1  | 36.3  |
| Average Queue (m)     | 23.2  | 27.5  | 2.8  | 45.4  | 33.1  | 8.7   |
| 95th Queue (m)        | 36.6  | 40.8  | 11.7 | 65.7  | 58.6  | 21.7  |
| Link Distance (m)     | 439.5 | 439.5 |      | 174.8 | 174.8 | 189.2 |
| Upstream Blk Time (%) |       |       |      |       |       |       |
| Queuing Penalty (veh) |       |       |      |       |       |       |
| Storage Bay Dist (m)  |       |       | 95.0 |       |       |       |
| Storage Blk Time (%)  |       | 0     |      |       |       |       |
| Queuing Penalty (veh) |       | 0     |      |       |       |       |

Intersection: 15: Bramalea Road & Old School Road

| Movement              | EB    | WB   | NB    | SB    |
|-----------------------|-------|------|-------|-------|
| Directions Served     | LTR   | LTR  | LTR   | LTR   |
| Maximum Queue (m)     | 37.4  | 41.8 | 27.5  | 16.0  |
| Average Queue (m)     | 18.8  | 23.6 | 16.2  | 10.5  |
| 95th Queue (m)        | 30.6  | 38.5 | 25.5  | 16.9  |
| Link Distance (m)     | 120.6 | 90.4 | 175.7 | 122.2 |
| Upstream Blk Time (%) |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |
| Storage Bay Dist (m)  |       |      |       |       |
| Storage Blk Time (%)  |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |

Network Summary

Network wide Queuing Penalty: 1727

1: Dixie Road & Mayfield Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|--------------------|------|------|------|------|------|-----|------|------|-----|------|------|-----|
| Denied Del/Veh (s) | 0.7  | 0.4  | 0.5  | 2.3  | 0.2  | 2.4 | 0.6  | 0.1  | 0.6 | 0.1  | 0.0  | 0.1 |
| Total Del/Veh (s)  | 84.4 | 29.3 | 11.4 | 42.4 | 43.8 | 4.2 | 54.8 | 51.8 | 2.3 | 62.4 | 47.9 | 5.4 |
| Stop Del/Veh (s)   | 62.7 | 15.6 | 0.1  | 39.5 | 36.2 | 1.0 | 50.1 | 46.3 | 0.0 | 57.3 | 42.4 | 0.9 |

1: Dixie Road & Mayfield Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.4  |
| Total Del/Veh (s)  | 39.6 |
| Stop Del/Veh (s)   | 28.4 |

5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Performance by movement

| Movement           | EBL  | EBR | WBL  | WBR | NBL  | NBT | NBR  | SBL  | SBT | SBR | All |
|--------------------|------|-----|------|-----|------|-----|------|------|-----|-----|-----|
| Denied Del/Veh (s) | 4.1  | 4.2 | 4.1  | 0.1 | 0.1  | 0.0 | 0.0  | 0.0  | 0.0 | 0.0 | 0.2 |
| Total Del/Veh (s)  | 39.0 | 7.9 | 54.0 | 8.2 | 13.8 | 8.9 | 15.1 | 19.5 | 4.2 | 2.5 | 8.8 |
| Stop Del/Veh (s)   | 37.1 | 7.5 | 49.4 | 4.8 | 8.1  | 2.3 | 5.0  | 15.0 | 1.8 | 0.6 | 3.8 |

7: Dixie Road & UPS Facility Access/12173 West Access 1 Performance by movement

| Movement           | EBR | NBL | NBT | NBR | SBL  | SBT | SBR | All |
|--------------------|-----|-----|-----|-----|------|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.0 | 0.0 | 0.0 | 1.3  | 0.1 | 0.0 | 0.0 |
| Total Del/Veh (s)  | 8.6 | 6.8 | 6.2 | 7.6 | 11.3 | 6.5 | 6.3 | 6.4 |
| Stop Del/Veh (s)   | 8.5 | 4.1 | 2.1 | 2.6 | 2.3  | 0.1 | 0.1 | 1.5 |

8: Dixie Road & 12489 Site Access 1 Performance by movement

| Movement           | NBT | SBT | All |
|--------------------|-----|-----|-----|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s)  | 6.6 | 3.2 | 5.2 |
| Stop Del/Veh (s)   | 0.5 | 0.1 | 0.3 |

10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Performance by movement

| Movement           | EBL  | EBR  | NBL | NBT | SBT | SBR | All |
|--------------------|------|------|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 4.0  | 0.2  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s)  | 63.6 | 12.0 | 9.4 | 4.5 | 6.1 | 4.9 | 5.9 |
| Stop Del/Veh (s)   | 60.4 | 8.3  | 3.5 | 0.3 | 0.4 | 0.2 | 1.2 |

### 11: Dixie Road & 12861 Site Access 1 Performance by movement

| Movement           | WBR | NBT | NBR | SBT | All |
|--------------------|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1 | 0.0 | 0.0 | 0.2 | 0.1 |
| Total Del/Veh (s)  | 8.0 | 7.8 | 7.7 | 2.3 | 5.4 |
| Stop Del/Veh (s)   | 4.9 | 0.0 | 0.0 | 0.1 | 0.1 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL  | WBT  | WBR | NBL  | NBT | NBR | SBL  | SBT  | SBR |
|--------------------|------|------|------|------|------|-----|------|-----|-----|------|------|-----|
| Denied Del/Veh (s) | 2.9  | 0.6  | 3.2  | 0.0  | 0.0  | 0.1 | 0.0  | 0.0 | 0.0 | 3.3  | 1.0  | 3.2 |
| Total Del/Veh (s)  | 29.5 | 42.9 | 13.9 | 30.4 | 19.4 | 8.0 | 35.3 | 3.2 | 4.8 | 15.2 | 13.4 | 4.3 |
| Stop Del/Veh (s)   | 25.0 | 35.5 | 10.6 | 26.7 | 18.1 | 6.0 | 30.7 | 1.9 | 2.6 | 11.4 | 9.2  | 1.7 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.9  |
| Total Del/Veh (s)  | 15.9 |
| Stop Del/Veh (s)   | 12.3 |

### 13: 12861 Site Access 2 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBT | NBR | All |
|--------------------|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Total Del/Veh (s)  | 1.6 | 1.7 | 3.2 | 6.4 | 1.8 |
| Stop Del/Veh (s)   | 0.1 | 0.1 | 0.4 | 2.3 | 0.2 |

### 14: 12861 Site Access 3 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBL    | WBT    | NBL  | NBR  | All   |
|--------------------|-----|-----|--------|--------|------|------|-------|
| Denied Del/Veh (s) | 0.0 | 0.0 | 1700.3 | 1739.0 | 0.1  | 0.1  | 613.1 |
| Total Del/Veh (s)  | 1.6 | 3.1 | 3600.0 | 3596.5 | 51.6 | 25.0 | 340.0 |
| Stop Del/Veh (s)   | 0.4 | 1.4 | 3600.0 | 3596.4 | 46.7 | 21.1 | 338.4 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL | WBT | NBL | NBT | NBR | SBL  | SBT | SBR | All |
|--------------------|------|------|------|-----|-----|-----|-----|-----|------|-----|-----|-----|
| Denied Del/Veh (s) | 0.9  | 0.5  | 0.5  | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.3  | 0.2 | 0.2 | 0.4 |
| Total Del/Veh (s)  | 13.6 | 11.7 | 11.6 | 9.2 | 8.2 | 9.2 | 8.4 | 8.2 | 10.4 | 8.7 | 8.6 | 9.8 |
| Stop Del/Veh (s)   | 8.2  | 6.4  | 5.9  | 4.4 | 3.8 | 4.5 | 4.0 | 3.9 | 5.6  | 3.9 | 4.1 | 4.9 |

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Total Network Performance

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|                    |      |
|--------------------|------|
|                    |      |
| Denied Del/Veh (s) | 64.6 |
| Total Del/Veh (s)  | 69.9 |
| Stop Del/Veh (s)   | 51.2 |

Queuing and Blocking Report  
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Intersection: 1: Dixie Road & Mayfield Road

| Movement              | EB    | EB    | EB    | EB    | EB    | EB    | WB    | WB    | WB    | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Directions Served     | L     | L     | T     | T     | T     | R     | L     | T     | T     | T     | R     | L     |
| Maximum Queue (m)     | 137.4 | 159.9 | 374.7 | 217.9 | 166.5 | 130.0 | 33.7  | 157.5 | 146.6 | 96.7  | 46.7  | 84.7  |
| Average Queue (m)     | 115.1 | 129.3 | 132.2 | 98.4  | 96.5  | 13.8  | 14.7  | 98.6  | 85.7  | 58.3  | 4.2   | 25.5  |
| 95th Queue (m)        | 155.7 | 181.8 | 259.1 | 162.5 | 139.1 | 79.3  | 30.6  | 133.3 | 118.0 | 85.2  | 24.4  | 54.2  |
| Link Distance (m)     |       |       | 988.7 | 988.7 | 988.7 |       |       | 280.2 | 280.2 | 280.2 |       |       |
| Upstream Blk Time (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |       |       |       |       |       |       |       |
| Storage Bay Dist (m)  | 115.0 | 115.0 |       |       |       | 75.0  | 115.0 |       |       |       | 110.0 | 115.0 |
| Storage Blk Time (%)  | 13    | 20    | 1     |       | 14    |       |       | 3     |       |       |       |       |
| Queuing Penalty (veh) | 90    | 135   | 12    |       | 40    |       |       | 2     |       |       |       |       |

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | NB    | NB    | NB   | SB    | SB    | SB    | SB    |
|-----------------------|-------|-------|------|-------|-------|-------|-------|
| Directions Served     | T     | T     | R    | L     | T     | T     | R     |
| Maximum Queue (m)     | 64.7  | 69.7  | 76.2 | 75.2  | 56.6  | 61.6  | 42.3  |
| Average Queue (m)     | 37.4  | 38.6  | 3.6  | 37.1  | 31.2  | 31.3  | 14.5  |
| 95th Queue (m)        | 60.4  | 61.2  | 27.3 | 64.6  | 52.1  | 51.9  | 34.9  |
| Link Distance (m)     | 847.5 | 847.5 |      |       | 469.3 | 469.3 |       |
| Upstream Blk Time (%) |       |       |      |       |       |       |       |
| Queuing Penalty (veh) |       |       |      |       |       |       |       |
| Storage Bay Dist (m)  |       |       | 65.0 | 115.0 |       |       | 135.0 |
| Storage Blk Time (%)  |       | 1     |      |       |       |       |       |
| Queuing Penalty (veh) |       | 1     |      |       |       |       |       |

Intersection: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

| Movement              | EB   | EB   | WB   | WB    | NB   | NB    | NB    | SB    | SB    | SB   |
|-----------------------|------|------|------|-------|------|-------|-------|-------|-------|------|
| Directions Served     | L    | R    | L    | TR    | L    | T     | TR    | LT    | T     | R    |
| Maximum Queue (m)     | 19.2 | 23.5 | 22.2 | 79.5  | 27.3 | 75.0  | 481.4 | 54.8  | 51.1  | 11.1 |
| Average Queue (m)     | 4.5  | 10.7 | 12.6 | 7.4   | 14.0 | 10.7  | 41.3  | 11.7  | 17.2  | 0.7  |
| 95th Queue (m)        | 12.8 | 21.1 | 23.1 | 38.1  | 25.1 | 40.8  | 189.3 | 35.3  | 46.2  | 4.5  |
| Link Distance (m)     |      |      |      | 101.5 |      | 469.3 | 469.3 | 359.7 | 359.7 |      |
| Upstream Blk Time (%) |      |      |      |       |      |       | 0     |       |       |      |
| Queuing Penalty (veh) |      |      |      |       |      |       | 2     |       |       |      |
| Storage Bay Dist (m)  | 15.0 | 15.0 | 15.0 |       | 70.0 |       |       |       |       | 65.0 |
| Storage Blk Time (%)  | 1    | 2    | 26   | 2     |      |       |       |       |       |      |
| Queuing Penalty (veh) | 1    | 0    | 1    | 1     |      |       |       |       |       |      |

Queuing and Blocking Report  
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Intersection: 7: Dixie Road & UPS Facility Access/12173 West Access 1

| Movement              | EB    | NB    | NB    | NB    | SB    |
|-----------------------|-------|-------|-------|-------|-------|
| Directions Served     | R     | L     | T     | TR    | LTR   |
| Maximum Queue (m)     | 14.5  | 16.7  | 55.3  | 63.0  | 61.3  |
| Average Queue (m)     | 1.8   | 6.8   | 18.3  | 21.3  | 5.4   |
| 95th Queue (m)        | 9.3   | 15.4  | 42.3  | 48.4  | 26.0  |
| Link Distance (m)     | 100.4 | 359.7 | 359.7 | 359.7 | 699.4 |
| Upstream Blk Time (%) |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |

Intersection: 8: Dixie Road & 12489 Site Access 1

| Movement              | NB    |
|-----------------------|-------|
| Directions Served     | T     |
| Maximum Queue (m)     | 724.8 |
| Average Queue (m)     | 25.9  |
| 95th Queue (m)        | 247.8 |
| Link Distance (m)     | 699.4 |
| Upstream Blk Time (%) | 0     |
| Queuing Penalty (veh) | 1     |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

Intersection: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

| Movement              | EB   | EB    | NB   | NB    | SB    | SB   |
|-----------------------|------|-------|------|-------|-------|------|
| Directions Served     | L    | TR    | L    | T     | T     | R    |
| Maximum Queue (m)     | 14.0 | 15.0  | 16.2 | 57.5  | 54.0  | 7.8  |
| Average Queue (m)     | 4.4  | 5.4   | 6.0  | 6.9   | 7.1   | 0.3  |
| 95th Queue (m)        | 12.3 | 12.2  | 14.8 | 31.1  | 29.5  | 2.6  |
| Link Distance (m)     |      | 171.5 |      | 375.1 | 819.4 |      |
| Upstream Blk Time (%) |      |       |      |       |       |      |
| Queuing Penalty (veh) |      |       |      |       |       |      |
| Storage Bay Dist (m)  | 20.0 |       | 60.0 |       |       | 60.0 |
| Storage Blk Time (%)  |      | 0     |      | 0     | 0     |      |
| Queuing Penalty (veh) |      | 0     |      | 0     | 0     |      |

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Intersection: 11: Dixie Road & 12861 Site Access 1

| Movement              | WB   |
|-----------------------|------|
| Directions Served     | R    |
| Maximum Queue (m)     | 9.0  |
| Average Queue (m)     | 3.4  |
| 95th Queue (m)        | 10.5 |
| Link Distance (m)     | 89.6 |
| Upstream Blk Time (%) |      |
| Queuing Penalty (veh) |      |
| Storage Bay Dist (m)  |      |
| Storage Blk Time (%)  |      |
| Queuing Penalty (veh) |      |

Intersection: 12: Dixie Road & Old School Road

| Movement              | EB   | EB    | EB   | WB   | WB   | NB   | NB    | NB   | SB   | SB    | SB   |
|-----------------------|------|-------|------|------|------|------|-------|------|------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR   | L    | T     | R    | L    | T     | R    |
| Maximum Queue (m)     | 34.9 | 142.0 | 27.3 | 16.1 | 25.9 | 44.0 | 35.0  | 17.9 | 14.9 | 92.1  | 20.0 |
| Average Queue (m)     | 12.1 | 66.7  | 10.3 | 6.0  | 8.0  | 16.7 | 13.3  | 4.4  | 7.2  | 48.3  | 8.0  |
| 95th Queue (m)        | 22.5 | 110.5 | 21.3 | 15.1 | 21.3 | 36.0 | 30.0  | 12.8 | 14.9 | 85.9  | 16.9 |
| Link Distance (m)     |      | 382.3 |      |      | 43.2 |      | 215.0 |      |      | 274.1 |      |
| Upstream Blk Time (%) |      |       |      |      |      |      |       |      |      |       |      |
| Queuing Penalty (veh) |      |       |      |      |      |      |       |      |      |       |      |
| Storage Bay Dist (m)  | 75.0 |       | 75.0 | 65.0 |      | 75.0 |       | 50.0 | 75.0 |       | 75.0 |
| Storage Blk Time (%)  |      | 8     |      |      |      |      |       |      |      | 1     |      |
| Queuing Penalty (veh) |      | 11    |      |      |      |      |       |      |      | 3     |      |

Intersection: 13: 12861 Site Access 2 & Old School Road

| Movement              | NB    |
|-----------------------|-------|
| Directions Served     | R     |
| Maximum Queue (m)     | 8.3   |
| Average Queue (m)     | 0.9   |
| 95th Queue (m)        | 5.1   |
| Link Distance (m)     | 166.2 |
| Upstream Blk Time (%) |       |
| Queuing Penalty (veh) |       |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

Queuing and Blocking Report  
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Intersection: 14: 12861 Site Access 3 & Old School Road

| Movement              | EB    | EB    | EB   | WB    | WB    | NB    |
|-----------------------|-------|-------|------|-------|-------|-------|
| Directions Served     | T     | T     | R    | T     | T     | LR    |
| Maximum Queue (m)     | 16.5  | 16.3  | 9.2  | 179.4 | 174.0 | 32.1  |
| Average Queue (m)     | 2.7   | 2.8   | 0.6  | 175.2 | 169.9 | 15.0  |
| 95th Queue (m)        | 11.0  | 11.1  | 4.2  | 176.5 | 171.2 | 29.2  |
| Link Distance (m)     | 439.5 | 439.5 |      | 174.8 | 174.8 | 189.2 |
| Upstream Blk Time (%) |       |       |      | 99    | 98    |       |
| Queuing Penalty (veh) |       |       |      | 0     | 0     |       |
| Storage Bay Dist (m)  |       |       | 50.0 |       |       |       |
| Storage Blk Time (%)  |       |       |      | 100   |       |       |
| Queuing Penalty (veh) |       |       |      | 30    |       |       |

Intersection: 15: Bramalea Road & Old School Road

| Movement              | EB    | WB   | NB    | SB    |
|-----------------------|-------|------|-------|-------|
| Directions Served     | LTR   | LTR  | LTR   | LTR   |
| Maximum Queue (m)     | 78.3  | 35.7 | 27.9  | 22.6  |
| Average Queue (m)     | 25.8  | 17.2 | 13.1  | 13.9  |
| 95th Queue (m)        | 48.5  | 28.0 | 21.9  | 22.1  |
| Link Distance (m)     | 120.6 | 90.4 | 175.7 | 122.2 |
| Upstream Blk Time (%) |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |
| Storage Bay Dist (m)  |       |      |       |       |
| Storage Blk Time (%)  |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |

Network Summary

Network wide Queuing Penalty: 330



### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR   |
|--------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-------|
| Denied Del/Veh (s) | 0.5  | 0.2  | 0.2 | 2.2  | 0.2  | 2.2 | 1.0  | 0.1  | 1.0 | 20.5 | 3.1  | 33.4  |
| Total Del/Veh (s)  | 67.2 | 23.2 | 6.2 | 33.5 | 49.7 | 2.9 | 74.5 | 50.8 | 2.5 | 74.1 | 67.1 | 178.2 |
| Stop Del/Veh (s)   | 53.9 | 14.1 | 0.0 | 29.9 | 39.2 | 0.1 | 68.8 | 45.5 | 0.2 | 62.6 | 56.0 | 151.3 |

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 6.3  |
| Total Del/Veh (s)  | 64.4 |
| Stop Del/Veh (s)   | 52.1 |

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Performance by movement

| Movement           | EBL  | EBR  | WBL  | WBR  | NBL  | NBT  | NBR  | SBL   | SBT   | SBR   | All   |
|--------------------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| Denied Del/Veh (s) | 3.9  | 4.0  | 4.0  | 0.4  | 0.0  | 0.0  | 0.0  | 0.0   | 17.4  | 0.0   | 9.4   |
| Total Del/Veh (s)  | 43.1 | 39.5 | 67.1 | 23.0 | 28.7 | 12.8 | 15.4 | 194.0 | 187.6 | 168.1 | 108.3 |
| Stop Del/Veh (s)   | 39.9 | 38.4 | 63.8 | 20.6 | 25.0 | 5.7  | 8.0  | 180.8 | 176.9 | 164.2 | 99.8  |

### 7: Dixie Road & UPS Facility Access/12173 West Access 1 Performance by movement

| Movement           | EBL  | WBR  | NBL  | NBT | NBR | SBT   | SBR   | All  |
|--------------------|------|------|------|-----|-----|-------|-------|------|
| Denied Del/Veh (s) | 0.1  | 0.1  | 0.0  | 0.0 | 0.0 | 66.1  | 186.1 | 40.5 |
| Total Del/Veh (s)  | 41.0 | 19.5 | 36.2 | 6.6 | 9.2 | 112.5 | 146.3 | 69.8 |
| Stop Del/Veh (s)   | 38.5 | 19.1 | 32.0 | 2.4 | 5.0 | 67.0  | 92.1  | 41.3 |

### 8: Dixie Road & 12489 Site Access 1 Performance by movement

| Movement           | NBT | SBT  | All  |
|--------------------|-----|------|------|
| Denied Del/Veh (s) | 0.0 | 0.1  | 0.1  |
| Total Del/Veh (s)  | 5.7 | 41.0 | 27.4 |
| Stop Del/Veh (s)   | 0.5 | 20.5 | 12.8 |

### 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Performance by movement

| Movement           | EBL  | EBR  | NBL  | NBT | SBT  | SBR  | All  |
|--------------------|------|------|------|-----|------|------|------|
| Denied Del/Veh (s) | 3.8  | 0.3  | 0.0  | 0.0 | 0.0  | 0.0  | 0.1  |
| Total Del/Veh (s)  | 54.6 | 37.4 | 56.5 | 4.9 | 39.1 | 41.0 | 27.5 |
| Stop Del/Veh (s)   | 51.2 | 36.2 | 52.9 | 0.8 | 16.9 | 19.3 | 12.8 |

### 11: Dixie Road & 12861 Site Access 1 Performance by movement

| Movement           | WBR  | NBT | NBR | SBT | All |
|--------------------|------|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1  | 0.0 | 0.0 | 2.4 | 1.4 |
| Total Del/Veh (s)  | 11.0 | 7.7 | 6.2 | 3.3 | 5.2 |
| Stop Del/Veh (s)   | 10.6 | 0.0 | 0.0 | 0.1 | 0.3 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|--------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Denied Del/Veh (s) | 3.5  | 0.7  | 3.2 | 0.0  | 0.4  | 12.6 | 0.0  | 0.0  | 0.0 | 3.4  | 0.6  | 3.4 |
| Total Del/Veh (s)  | 31.7 | 21.4 | 7.6 | 44.6 | 39.4 | 30.7 | 40.0 | 20.9 | 4.4 | 37.9 | 19.0 | 5.9 |
| Stop Del/Veh (s)   | 28.5 | 17.5 | 6.9 | 41.0 | 34.7 | 29.1 | 35.0 | 14.3 | 2.2 | 35.3 | 14.9 | 5.2 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.8  |
| Total Del/Veh (s)  | 25.9 |
| Stop Del/Veh (s)   | 21.4 |

### 13: 12861 Site Access 2 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBT  | NBR | All  |
|--------------------|-----|-----|------|-----|------|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0  | 0.1 | 0.0  |
| Total Del/Veh (s)  | 1.0 | 0.8 | 25.8 | 1.8 | 17.8 |
| Stop Del/Veh (s)   | 0.3 | 0.4 | 20.0 | 1.8 | 13.7 |

### 14: 12861 Site Access 3 & Old School Road Performance by movement

| Movement           | EBT  | WBL  | WBT  | NBL | NBR | All  |
|--------------------|------|------|------|-----|-----|------|
| Denied Del/Veh (s) | 0.0  | 3.5  | 0.2  | 0.2 | 0.2 | 0.2  |
| Total Del/Veh (s)  | 24.0 | 33.2 | 25.6 | 7.1 | 3.0 | 22.2 |
| Stop Del/Veh (s)   | 19.8 | 30.2 | 20.4 | 5.4 | 1.9 | 17.9 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | EBL | EBT | EBR | WBL  | WBT  | WBR | NBL | NBT  | NBR | SBL | SBT | SBR |
|--------------------|-----|-----|-----|------|------|-----|-----|------|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.3 | 0.3 | 0.1 | 0.4  | 0.4  | 0.6 | 0.3 | 0.3  | 0.3 | 0.1 | 0.1 | 0.2 |
| Total Del/Veh (s)  | 9.4 | 9.3 | 6.1 | 10.8 | 13.0 | 8.0 | 9.1 | 10.8 | 7.0 | 7.7 | 8.1 | 3.8 |
| Stop Del/Veh (s)   | 6.1 | 4.5 | 4.1 | 6.9  | 8.2  | 6.8 | 5.7 | 6.1  | 5.2 | 4.6 | 4.1 | 3.2 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.3  |
| Total Del/Veh (s)  | 10.5 |
| Stop Del/Veh (s)   | 6.2  |

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Total Network Performance

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|                    |       |
|--------------------|-------|
|                    |       |
| Denied Del/Veh (s) | 18.9  |
| Total Del/Veh (s)  | 124.3 |
| Stop Del/Veh (s)   | 90.5  |

Queuing and Blocking Report  
Future Background 2033 (12489) PM Peak Hour

07-24-2025

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | EB    | EB    | EB    | EB    | EB    | WB    | WB    | WB    | WB    | NB    | NB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Directions Served     | L     | L     | T     | T     | T     | L     | T     | T     | T     | L     | T     | T     |
| Maximum Queue (m)     | 137.3 | 159.9 | 193.7 | 120.1 | 126.9 | 184.5 | 201.8 | 209.1 | 166.5 | 112.0 | 52.9  | 52.4  |
| Average Queue (m)     | 86.2  | 96.1  | 72.7  | 71.6  | 73.7  | 9.8   | 131.0 | 117.8 | 94.5  | 54.8  | 23.4  | 24.3  |
| 95th Queue (m)        | 130.5 | 146.6 | 150.6 | 106.5 | 113.0 | 20.8  | 170.5 | 159.8 | 130.0 | 100.1 | 41.3  | 43.2  |
| Link Distance (m)     |       |       | 988.7 | 988.7 | 988.7 |       | 280.2 | 280.2 | 280.2 |       | 847.5 | 847.5 |
| Upstream Blk Time (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |       |       |       |       |       |       |       |
| Storage Bay Dist (m)  | 115.0 | 115.0 |       |       |       | 115.0 |       |       |       | 115.0 |       |       |
| Storage Blk Time (%)  | 2     | 5     | 0     |       | 6     |       | 17    |       | 1     | 0     |       |       |
| Queuing Penalty (veh) | 11    | 23    | 1     |       | 12    |       | 10    |       | 1     | 0     |       |       |

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | NB   | SB    | SB    | SB    | SB    |
|-----------------------|------|-------|-------|-------|-------|
| Directions Served     | R    | L     | T     | T     | R     |
| Maximum Queue (m)     | 18.7 | 106.7 | 488.2 | 483.9 | 205.0 |
| Average Queue (m)     | 1.8  | 38.9  | 420.6 | 463.3 | 205.0 |
| 95th Queue (m)        | 10.2 | 73.2  | 576.5 | 518.9 | 205.0 |
| Link Distance (m)     |      |       | 469.3 | 469.3 |       |
| Upstream Blk Time (%) |      |       | 3     | 19    |       |
| Queuing Penalty (veh) |      |       | 23    | 144   |       |
| Storage Bay Dist (m)  | 65.0 | 115.0 |       |       | 135.0 |
| Storage Blk Time (%)  |      |       |       | 4     | 71    |
| Queuing Penalty (veh) |      |       |       | 38    | 97    |

Intersection: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

| Movement              | EB   | EB    | EB   | WB   | WB    | NB   | NB    | NB    | SB    | SB    | SB   |
|-----------------------|------|-------|------|------|-------|------|-------|-------|-------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR    | L    | T     | TR    | LT    | T     | R    |
| Maximum Queue (m)     | 21.6 | 53.0  | 23.4 | 22.8 | 82.5  | 22.5 | 114.5 | 499.4 | 365.8 | 370.7 | 72.4 |
| Average Queue (m)     | 9.1  | 9.7   | 15.7 | 14.8 | 11.5  | 8.2  | 28.6  | 64.0  | 303.4 | 316.4 | 13.1 |
| 95th Queue (m)        | 20.7 | 34.9  | 23.3 | 25.2 | 47.5  | 20.1 | 83.9  | 215.0 | 467.6 | 471.7 | 58.7 |
| Link Distance (m)     |      | 232.4 |      |      | 101.5 |      | 469.3 | 469.3 | 359.7 | 359.7 |      |
| Upstream Blk Time (%) |      |       |      |      |       |      |       | 0     | 2     | 12    |      |
| Queuing Penalty (veh) |      |       |      |      |       |      |       | 1     | 10    | 82    |      |
| Storage Bay Dist (m)  | 15.0 |       | 15.0 | 15.0 |       | 70.0 |       |       |       |       | 65.0 |
| Storage Blk Time (%)  | 14   | 0     | 32   | 34   | 0     |      | 1     |       |       | 82    | 0    |
| Queuing Penalty (veh) | 15   | 1     | 14   | 2    | 0     |      | 0     |       |       | 8     | 0    |

Queuing and Blocking Report  
Future Background 2033 (12489) PM Peak Hour

07-24-2025

Intersection: 7: Dixie Road & UPS Facility Access/12173 West Access 1

| Movement              | EB    | WB   | NB    | NB    | NB    | SB    |
|-----------------------|-------|------|-------|-------|-------|-------|
| Directions Served     | L     | R    | L     | T     | TR    | TR    |
| Maximum Queue (m)     | 14.0  | 14.5 | 34.3  | 64.1  | 72.6  | 735.3 |
| Average Queue (m)     | 0.9   | 2.9  | 7.2   | 19.1  | 25.6  | 470.8 |
| 95th Queue (m)        | 4.5   | 9.6  | 20.9  | 51.5  | 69.4  | 979.0 |
| Link Distance (m)     | 100.4 | 75.4 | 359.7 | 359.7 | 359.7 | 699.4 |
| Upstream Blk Time (%) |       |      |       |       |       | 23    |
| Queuing Penalty (veh) |       |      |       |       |       | 296   |
| Storage Bay Dist (m)  |       |      |       |       |       |       |
| Storage Blk Time (%)  |       |      |       |       |       |       |
| Queuing Penalty (veh) |       |      |       |       |       |       |

Intersection: 8: Dixie Road & 12489 Site Access 1

| Movement              | SB    |
|-----------------------|-------|
| Directions Served     | LT    |
| Maximum Queue (m)     | 376.5 |
| Average Queue (m)     | 141.0 |
| 95th Queue (m)        | 399.4 |
| Link Distance (m)     | 375.1 |
| Upstream Blk Time (%) | 0     |
| Queuing Penalty (veh) | 5     |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

Intersection: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

| Movement              | EB   | EB    | NB   | NB    | SB    | SB    |
|-----------------------|------|-------|------|-------|-------|-------|
| Directions Served     | L    | TR    | L    | T     | T     | R     |
| Maximum Queue (m)     | 21.0 | 26.5  | 34.9 | 60.4  | 755.2 | 134.9 |
| Average Queue (m)     | 9.4  | 10.7  | 7.5  | 19.5  | 154.4 | 5.1   |
| 95th Queue (m)        | 19.3 | 23.7  | 21.5 | 55.3  | 505.3 | 46.3  |
| Link Distance (m)     |      | 171.5 |      | 375.1 | 819.4 |       |
| Upstream Blk Time (%) |      |       |      |       |       |       |
| Queuing Penalty (veh) |      |       |      |       |       |       |
| Storage Bay Dist (m)  | 20.0 |       | 60.0 |       |       | 60.0  |
| Storage Blk Time (%)  | 2    | 7     |      | 0     | 12    |       |
| Queuing Penalty (veh) | 1    | 3     |      | 0     | 1     |       |

Queuing and Blocking Report  
Future Background 2033 (12489) PM Peak Hour

07-24-2025

Intersection: 11: Dixie Road & 12861 Site Access 1

| Movement              | WB   |
|-----------------------|------|
| Directions Served     | R    |
| Maximum Queue (m)     | 15.2 |
| Average Queue (m)     | 6.7  |
| 95th Queue (m)        | 13.8 |
| Link Distance (m)     | 89.6 |
| Upstream Blk Time (%) |      |
| Queuing Penalty (veh) |      |
| Storage Bay Dist (m)  |      |
| Storage Blk Time (%)  |      |
| Queuing Penalty (veh) |      |

Intersection: 12: Dixie Road & Old School Road

| Movement              | EB   | EB    | EB   | WB   | WB   | NB   | NB    | NB    | SB   | SB    | SB   |
|-----------------------|------|-------|------|------|------|------|-------|-------|------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR   | L    | T     | R     | L    | T     | R    |
| Maximum Queue (m)     | 34.7 | 53.3  | 27.2 | 43.1 | 65.2 | 88.5 | 129.8 | 122.0 | 15.0 | 83.0  | 28.0 |
| Average Queue (m)     | 21.2 | 21.7  | 9.9  | 36.3 | 61.9 | 32.4 | 68.4  | 13.2  | 5.7  | 42.7  | 4.8  |
| 95th Queue (m)        | 34.9 | 40.3  | 19.6 | 53.7 | 77.2 | 65.9 | 116.5 | 49.8  | 14.4 | 76.1  | 15.7 |
| Link Distance (m)     |      | 382.3 |      |      | 43.2 |      | 215.0 |       |      | 274.1 |      |
| Upstream Blk Time (%) |      |       |      | 9    | 34   |      |       |       |      |       |      |
| Queuing Penalty (veh) |      |       |      | 0    | 196  |      |       |       |      |       |      |
| Storage Bay Dist (m)  | 75.0 |       | 75.0 | 65.0 |      | 75.0 |       | 50.0  | 75.0 |       | 75.0 |
| Storage Blk Time (%)  |      |       |      | 9    | 34   | 1    | 16    |       |      | 1     |      |
| Queuing Penalty (veh) |      |       |      | 35   | 64   | 9    | 29    |       |      | 1     |      |

Intersection: 13: 12861 Site Access 2 & Old School Road

| Movement              | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|
| Directions Served     | T     | T     | R     |
| Maximum Queue (m)     | 73.4  | 69.0  | 8.1   |
| Average Queue (m)     | 39.7  | 35.3  | 1.6   |
| 95th Queue (m)        | 75.2  | 68.3  | 6.8   |
| Link Distance (m)     | 439.5 | 439.5 | 166.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

Queuing and Blocking Report  
Future Background 2033 (12489) PM Peak Hour

07-24-2025

Intersection: 14: 12861 Site Access 3 & Old School Road

| Movement              | EB    | EB    | WB   | WB    | WB    | NB    |
|-----------------------|-------|-------|------|-------|-------|-------|
| Directions Served     | T     | T     | L    | T     | T     | LR    |
| Maximum Queue (m)     | 35.3  | 40.2  | 9.3  | 75.9  | 74.1  | 19.2  |
| Average Queue (m)     | 23.2  | 26.1  | 1.5  | 46.6  | 33.2  | 8.8   |
| 95th Queue (m)        | 36.3  | 39.7  | 6.8  | 68.0  | 62.3  | 17.2  |
| Link Distance (m)     | 439.5 | 439.5 |      | 174.8 | 174.8 | 189.2 |
| Upstream Blk Time (%) |       |       |      |       |       |       |
| Queuing Penalty (veh) |       |       |      |       |       |       |
| Storage Bay Dist (m)  |       |       | 95.0 |       |       |       |
| Storage Blk Time (%)  |       |       |      |       |       |       |
| Queuing Penalty (veh) |       |       |      |       |       |       |

Intersection: 15: Bramalea Road & Old School Road

| Movement              | EB    | WB   | NB    | SB    |
|-----------------------|-------|------|-------|-------|
| Directions Served     | LTR   | LTR  | LTR   | LTR   |
| Maximum Queue (m)     | 36.0  | 67.2 | 40.8  | 21.0  |
| Average Queue (m)     | 16.8  | 27.6 | 18.8  | 10.4  |
| 95th Queue (m)        | 26.1  | 52.4 | 33.1  | 18.2  |
| Link Distance (m)     | 120.6 | 90.4 | 175.7 | 122.2 |
| Upstream Blk Time (%) |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |
| Storage Bay Dist (m)  |       |      |       |       |
| Storage Blk Time (%)  |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |

Network Summary

Network wide Queuing Penalty: 1133

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | EBL   | EBT  | EBR  | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|--------------------|-------|------|------|------|------|-----|------|------|-----|------|------|-----|
| Denied Del/Veh (s) | 0.7   | 0.5  | 0.5  | 2.4  | 0.2  | 2.5 | 0.8  | 0.1  | 0.8 | 0.1  | 0.0  | 0.1 |
| Total Del/Veh (s)  | 100.7 | 37.0 | 17.8 | 41.3 | 42.5 | 5.1 | 48.4 | 51.7 | 5.1 | 55.9 | 49.5 | 6.6 |
| Stop Del/Veh (s)   | 72.7  | 18.9 | 1.3  | 38.6 | 35.2 | 1.6 | 43.7 | 45.7 | 2.1 | 51.5 | 43.7 | 0.8 |

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.5  |
| Total Del/Veh (s)  | 45.1 |
| Stop Del/Veh (s)   | 30.8 |

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Performance by movement

| Movement           | EBL  | EBR | WBL  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT | SBR | All  |
|--------------------|------|-----|------|------|------|------|------|------|-----|-----|------|
| Denied Del/Veh (s) | 4.1  | 4.0 | 4.1  | 0.8  | 0.2  | 0.0  | 0.0  | 0.0  | 0.0 | 0.0 | 0.2  |
| Total Del/Veh (s)  | 56.2 | 8.1 | 63.6 | 21.2 | 19.7 | 10.4 | 13.4 | 27.3 | 4.0 | 2.5 | 10.0 |
| Stop Del/Veh (s)   | 53.9 | 7.8 | 59.2 | 17.4 | 13.8 | 2.7  | 3.8  | 23.2 | 1.3 | 0.6 | 4.3  |

### 7: Dixie Road & UPS Facility Access/12173 West Access 1 Performance by movement

| Movement           | EBR | NBL  | NBT | NBR  | SBL  | SBT  | SBR  | All  |
|--------------------|-----|------|-----|------|------|------|------|------|
| Denied Del/Veh (s) | 0.1 | 0.0  | 0.0 | 0.0  | 0.3  | 0.2  | 0.0  | 0.1  |
| Total Del/Veh (s)  | 6.7 | 14.0 | 9.4 | 11.4 | 64.3 | 34.1 | 30.3 | 19.4 |
| Stop Del/Veh (s)   | 6.6 | 10.8 | 4.4 | 5.2  | 50.5 | 21.3 | 19.6 | 11.4 |

### 8: Dixie Road & 12489 Site Access 1 Performance by movement

| Movement           | NBT | NBR | SBT | All |
|--------------------|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Del/Veh (s)  | 7.2 | 5.4 | 3.7 | 5.7 |
| Stop Del/Veh (s)   | 0.7 | 0.6 | 0.1 | 0.4 |

### 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Performance by movement

| Movement           | EBL  | EBR  | WBL  | WBR  | NBL  | NBT | NBR | SBL  | SBT  | SBR | All  |
|--------------------|------|------|------|------|------|-----|-----|------|------|-----|------|
| Denied Del/Veh (s) | 4.2  | 0.2  | 4.2  | 0.2  | 0.0  | 0.0 | 0.0 | 0.0  | 0.0  | 0.0 | 0.1  |
| Total Del/Veh (s)  | 62.3 | 10.1 | 65.1 | 21.4 | 19.2 | 7.0 | 3.1 | 29.0 | 10.3 | 8.2 | 11.1 |
| Stop Del/Veh (s)   | 58.1 | 7.0  | 60.6 | 17.9 | 13.3 | 1.5 | 0.1 | 20.4 | 2.4  | 1.0 | 4.8  |



### 11: Dixie Road & 12861 Site Access 1 Performance by movement

| Movement           | WBR  | NBT | NBR | SBT | All |
|--------------------|------|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.1  | 0.0 | 0.2 | 0.2 | 0.1 |
| Total Del/Veh (s)  | 12.4 | 7.7 | 7.4 | 3.0 | 5.6 |
| Stop Del/Veh (s)   | 9.1  | 0.1 | 0.1 | 0.2 | 0.2 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL  | WBT  | WBR | NBL  | NBT | NBR | SBL  | SBT  | SBR |
|--------------------|------|------|------|------|------|-----|------|-----|-----|------|------|-----|
| Denied Del/Veh (s) | 3.1  | 0.7  | 2.8  | 0.0  | 0.0  | 0.0 | 0.0  | 0.0 | 0.0 | 3.1  | 1.2  | 2.9 |
| Total Del/Veh (s)  | 40.7 | 43.9 | 14.4 | 49.6 | 24.0 | 7.7 | 40.4 | 3.9 | 4.4 | 26.6 | 21.3 | 4.9 |
| Stop Del/Veh (s)   | 36.2 | 35.8 | 11.2 | 46.1 | 22.1 | 4.7 | 35.9 | 2.4 | 2.4 | 21.7 | 14.7 | 1.9 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 1.0  |
| Total Del/Veh (s)  | 19.7 |
| Stop Del/Veh (s)   | 15.2 |

### 13: 12861 Site Access 2 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBT | NBR | All |
|--------------------|-----|-----|-----|-----|-----|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 |
| Total Del/Veh (s)  | 1.7 | 1.9 | 4.1 | 6.8 | 2.0 |
| Stop Del/Veh (s)   | 0.1 | 0.2 | 0.5 | 3.0 | 0.2 |

### 14: 12861 Site Access 3 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBL    | WBT    | NBL  | All   |
|--------------------|-----|-----|--------|--------|------|-------|
| Denied Del/Veh (s) | 0.0 | 0.0 | 2194.5 | 1818.5 | 0.4  | 672.5 |
| Total Del/Veh (s)  | 3.4 | 1.2 | 3593.7 | 3599.9 | 51.5 | 328.9 |
| Stop Del/Veh (s)   | 1.3 | 0.0 | 3593.9 | 3599.8 | 45.1 | 326.5 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR  | WBL | WBT | NBL | NBT | NBR | SBL | SBT  | SBR  | All  |
|--------------------|------|------|------|-----|-----|-----|-----|-----|-----|------|------|------|
| Denied Del/Veh (s) | 0.5  | 0.6  | 0.5  | 0.4 | 0.3 | 0.2 | 0.2 | 0.3 | 0.4 | 0.2  | 0.2  | 0.4  |
| Total Del/Veh (s)  | 13.7 | 11.8 | 13.5 | 9.0 | 8.7 | 8.6 | 8.6 | 8.1 | 8.5 | 10.1 | 10.2 | 10.5 |
| Stop Del/Veh (s)   | 8.0  | 6.2  | 8.0  | 4.2 | 4.1 | 4.2 | 4.0 | 3.9 | 3.6 | 5.3  | 5.3  | 5.4  |

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Total Network Performance

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|                    |      |
|--------------------|------|
|                    |      |
| Denied Del/Veh (s) | 70.6 |
| Total Del/Veh (s)  | 77.9 |
| Stop Del/Veh (s)   | 55.3 |

Queuing and Blocking Report  
Future Total 2033 AM Peak Hour

07-24-2025

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | EB    | EB    | EB    | EB    | EB    | EB    | WB    | WB    | WB    | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Directions Served     | L     | L     | T     | T     | T     | R     | L     | T     | T     | T     | R     | L     |
| Maximum Queue (m)     | 137.4 | 159.9 | 535.2 | 520.5 | 495.4 | 130.0 | 26.5  | 135.2 | 108.8 | 100.9 | 53.6  | 47.9  |
| Average Queue (m)     | 122.0 | 139.0 | 221.7 | 179.7 | 157.4 | 47.7  | 11.5  | 90.5  | 78.6  | 54.7  | 10.8  | 25.4  |
| 95th Queue (m)        | 159.6 | 190.0 | 434.3 | 386.9 | 334.4 | 148.8 | 22.6  | 116.6 | 102.0 | 79.5  | 42.1  | 40.0  |
| Link Distance (m)     |       |       | 988.7 | 988.7 | 988.7 |       |       | 280.2 | 280.2 | 280.2 |       |       |
| Upstream Blk Time (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |       |       |       |       |       |       |       |
| Storage Bay Dist (m)  | 115.0 | 115.0 |       |       |       | 75.0  | 115.0 |       |       |       | 110.0 | 115.0 |
| Storage Blk Time (%)  | 17    | 30    | 3     |       | 22    |       |       | 1     |       |       |       |       |
| Queuing Penalty (veh) | 110   | 197   | 23    |       | 60    |       |       | 1     |       |       |       |       |

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | NB    | NB    | NB   | SB    | SB    | SB    | SB   |
|-----------------------|-------|-------|------|-------|-------|-------|------|
| Directions Served     | T     | T     | R    | L     | T     | T     | R    |
| Maximum Queue (m)     | 58.1  | 68.9  | 26.2 | 59.7  | 91.3  | 99.3  | 60.4 |
| Average Queue (m)     | 38.4  | 38.2  | 3.4  | 31.7  | 37.0  | 39.4  | 19.6 |
| 95th Queue (m)        | 57.1  | 56.5  | 16.0 | 55.3  | 69.5  | 75.6  | 49.3 |
| Link Distance (m)     | 847.5 | 847.5 |      |       | 469.3 | 469.3 |      |
| Upstream Blk Time (%) |       |       |      |       |       |       |      |
| Queuing Penalty (veh) |       |       |      |       |       |       |      |
| Storage Bay Dist (m)  |       |       | 65.0 | 115.0 |       | 135.0 |      |
| Storage Blk Time (%)  |       | 0     |      |       |       |       |      |
| Queuing Penalty (veh) |       | 0     |      |       |       |       |      |

Intersection: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

| Movement              | EB   | EB    | EB   | WB   | WB    | NB   | NB    | NB    | SB    | SB    | SB   |
|-----------------------|------|-------|------|------|-------|------|-------|-------|-------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR    | L    | T     | TR    | LT    | T     | R    |
| Maximum Queue (m)     | 16.8 | 16.9  | 22.3 | 22.4 | 53.0  | 48.1 | 93.6  | 474.7 | 50.3  | 62.4  | 11.8 |
| Average Queue (m)     | 5.3  | 0.6   | 11.5 | 12.1 | 3.0   | 15.7 | 13.0  | 49.8  | 11.5  | 12.2  | 1.4  |
| 95th Queue (m)        | 13.4 | 5.8   | 20.5 | 23.1 | 19.5  | 34.2 | 50.7  | 193.6 | 32.8  | 38.7  | 5.9  |
| Link Distance (m)     |      | 232.4 |      |      | 101.5 |      | 469.3 | 469.3 | 359.7 | 359.7 |      |
| Upstream Blk Time (%) |      |       |      |      |       |      |       | 0     |       |       |      |
| Queuing Penalty (veh) |      |       |      |      |       |      |       | 1     |       |       |      |
| Storage Bay Dist (m)  | 15.0 |       | 15.0 | 15.0 |       | 70.0 |       |       |       |       | 65.0 |
| Storage Blk Time (%)  | 3    | 0     | 3    | 29   | 0     |      | 0     |       |       | 0     |      |
| Queuing Penalty (veh) | 2    | 0     | 1    | 1    | 0     |      | 0     |       |       | 0     |      |

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Intersection: 7: Dixie Road & UPS Facility Access/12173 West Access 1

| Movement              | EB    | NB    | NB    | NB    | SB    |
|-----------------------|-------|-------|-------|-------|-------|
| Directions Served     | R     | L     | T     | TR    | LTR   |
| Maximum Queue (m)     | 19.3  | 21.8  | 94.0  | 76.3  | 621.9 |
| Average Queue (m)     | 3.3   | 7.0   | 26.1  | 30.4  | 104.3 |
| 95th Queue (m)        | 12.9  | 19.0  | 59.6  | 68.7  | 397.2 |
| Link Distance (m)     | 100.4 | 359.7 | 359.7 | 359.7 | 699.4 |
| Upstream Blk Time (%) |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |
| Storage Bay Dist (m)  |       |       |       |       |       |
| Storage Blk Time (%)  |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |

Intersection: 8: Dixie Road & 12489 Site Access 1

| Movement              | NB    |
|-----------------------|-------|
| Directions Served     | T     |
| Maximum Queue (m)     | 730.8 |
| Average Queue (m)     | 26.1  |
| 95th Queue (m)        | 249.9 |
| Link Distance (m)     | 699.4 |
| Upstream Blk Time (%) | 0     |
| Queuing Penalty (veh) | 1     |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

Intersection: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

| Movement              | EB   | EB    | WB   | WB    | NB   | NB    | NB   | SB   | SB    | SB   |
|-----------------------|------|-------|------|-------|------|-------|------|------|-------|------|
| Directions Served     | L    | TR    | L    | TR    | L    | T     | R    | L    | T     | R    |
| Maximum Queue (m)     | 18.8 | 19.5  | 27.2 | 44.6  | 34.2 | 140.8 | 14.6 | 20.7 | 128.6 | 15.8 |
| Average Queue (m)     | 6.8  | 6.4   | 15.9 | 9.2   | 14.2 | 33.6  | 0.5  | 6.5  | 37.4  | 2.1  |
| 95th Queue (m)        | 17.4 | 17.1  | 31.7 | 30.8  | 29.1 | 83.6  | 5.0  | 16.8 | 95.6  | 8.9  |
| Link Distance (m)     |      | 171.5 |      | 134.0 |      | 375.1 |      |      | 819.4 |      |
| Upstream Blk Time (%) |      |       |      |       |      |       |      |      |       |      |
| Queuing Penalty (veh) |      |       |      |       |      |       |      |      |       |      |
| Storage Bay Dist (m)  | 20.0 |       | 20.0 |       | 60.0 |       | 60.0 | 60.0 |       | 60.0 |
| Storage Blk Time (%)  | 1    | 0     | 22   | 1     |      | 1     |      |      | 2     |      |
| Queuing Penalty (veh) | 0    | 0     | 4    | 0     |      | 1     |      |      | 1     |      |

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Intersection: 11: Dixie Road & 12861 Site Access 1

| Movement              | WB   |
|-----------------------|------|
| Directions Served     | R    |
| Maximum Queue (m)     | 20.0 |
| Average Queue (m)     | 6.3  |
| 95th Queue (m)        | 16.4 |
| Link Distance (m)     | 89.6 |
| Upstream Blk Time (%) |      |
| Queuing Penalty (veh) |      |
| Storage Bay Dist (m)  |      |
| Storage Blk Time (%)  |      |
| Queuing Penalty (veh) |      |

Intersection: 12: Dixie Road & Old School Road

| Movement              | EB   | EB    | EB   | WB   | WB   | NB   | NB    | NB   | SB   | SB    | SB   |
|-----------------------|------|-------|------|------|------|------|-------|------|------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR   | L    | T     | R    | L    | T     | R    |
| Maximum Queue (m)     | 33.6 | 135.4 | 39.7 | 43.1 | 62.8 | 43.9 | 52.2  | 14.2 | 35.1 | 158.8 | 25.8 |
| Average Queue (m)     | 15.4 | 84.2  | 11.4 | 21.5 | 8.9  | 15.7 | 20.5  | 3.6  | 11.4 | 73.0  | 9.3  |
| 95th Queue (m)        | 30.0 | 126.1 | 26.1 | 40.6 | 36.0 | 33.5 | 45.9  | 11.1 | 25.1 | 128.1 | 19.6 |
| Link Distance (m)     |      | 382.3 |      |      | 43.2 |      | 215.0 |      |      | 274.1 |      |
| Upstream Blk Time (%) |      |       |      | 0    | 3    |      |       |      |      |       |      |
| Queuing Penalty (veh) |      |       |      | 0    | 10   |      |       |      |      |       |      |
| Storage Bay Dist (m)  | 75.0 |       | 75.0 | 65.0 |      | 75.0 |       | 50.0 | 75.0 |       | 75.0 |
| Storage Blk Time (%)  |      | 14    |      | 0    | 3    |      | 0     |      |      | 9     |      |
| Queuing Penalty (veh) |      | 19    |      | 0    | 5    |      | 0     |      |      | 22    |      |

Intersection: 13: 12861 Site Access 2 & Old School Road

| Movement              | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|
| Directions Served     | T     | T     | R     |
| Maximum Queue (m)     | 5.7   | 6.6   | 8.3   |
| Average Queue (m)     | 0.2   | 0.2   | 0.8   |
| 95th Queue (m)        | 2.0   | 2.3   | 4.9   |
| Link Distance (m)     | 439.5 | 439.5 | 166.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

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Intersection: 14: 12861 Site Access 3 & Old School Road

| Movement              | EB    | EB    | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|
| Directions Served     | T     | T     | T     | T     | LR    |
| Maximum Queue (m)     | 26.8  | 34.9  | 174.4 | 170.4 | 66.7  |
| Average Queue (m)     | 5.7   | 9.5   | 170.5 | 164.1 | 26.0  |
| 95th Queue (m)        | 17.2  | 25.7  | 171.8 | 166.1 | 53.6  |
| Link Distance (m)     | 439.5 | 439.5 | 174.8 | 174.8 | 189.2 |
| Upstream Blk Time (%) |       |       | 100   | 0     |       |
| Queuing Penalty (veh) |       |       | 0     | 0     |       |
| Storage Bay Dist (m)  |       |       |       |       |       |
| Storage Blk Time (%)  |       |       | 100   |       |       |
| Queuing Penalty (veh) |       |       | 30    |       |       |

Intersection: 15: Bramalea Road & Old School Road

| Movement              | EB    | WB   | NB    | SB    |
|-----------------------|-------|------|-------|-------|
| Directions Served     | LTR   | LTR  | LTR   | LTR   |
| Maximum Queue (m)     | 65.7  | 36.0 | 28.3  | 42.6  |
| Average Queue (m)     | 25.9  | 16.0 | 12.1  | 16.7  |
| 95th Queue (m)        | 43.6  | 26.6 | 20.9  | 30.2  |
| Link Distance (m)     | 120.6 | 90.4 | 175.7 | 122.2 |
| Upstream Blk Time (%) |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |
| Storage Bay Dist (m)  |       |      |       |       |
| Storage Blk Time (%)  |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |

Network Summary

Network wide Queuing Penalty: 493

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | EBL  | EBT  | EBR | WBL  | WBT  | WBR | NBL  | NBT  | NBR | SBL  | SBT  | SBR   |
|--------------------|------|------|-----|------|------|-----|------|------|-----|------|------|-------|
| Denied Del/Veh (s) | 1.1  | 0.3  | 1.0 | 2.2  | 0.2  | 2.0 | 1.6  | 0.2  | 1.8 | 0.0  | 11.2 | 5.6   |
| Total Del/Veh (s)  | 61.6 | 23.4 | 5.5 | 35.1 | 68.5 | 5.5 | 59.9 | 44.3 | 2.8 | 88.8 | 53.1 | 161.0 |
| Stop Del/Veh (s)   | 46.8 | 13.0 | 0.0 | 27.7 | 50.5 | 0.4 | 53.7 | 36.6 | 0.0 | 77.6 | 38.5 | 123.6 |

### 1: Dixie Road & Mayfield Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 1.8  |
| Total Del/Veh (s)  | 65.3 |
| Stop Del/Veh (s)   | 48.7 |

### 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3 Performance by movement

| Movement           | EBL  | EBR  | WBL  | WBR | NBL  | NBT  | NBR | SBL   | SBT   | SBR   | All  |
|--------------------|------|------|------|-----|------|------|-----|-------|-------|-------|------|
| Denied Del/Veh (s) | 4.0  | 3.9  | 4.1  | 0.1 | 0.0  | 0.0  | 0.0 | 0.0   | 1.5   | 0.0   | 1.1  |
| Total Del/Veh (s)  | 59.6 | 20.7 | 63.0 | 6.0 | 23.3 | 11.2 | 7.4 | 166.9 | 160.1 | 145.0 | 88.8 |
| Stop Del/Veh (s)   | 57.1 | 19.9 | 59.8 | 6.0 | 17.0 | 3.0  | 0.3 | 151.3 | 143.7 | 133.8 | 77.2 |

### 7: Dixie Road & UPS Facility Access/12173 West Access 1 Performance by movement

| Movement           | EBL  | WBR  | NBL  | NBT | NBR | SBT   | SBR   | All  |
|--------------------|------|------|------|-----|-----|-------|-------|------|
| Denied Del/Veh (s) | 0.1  | 0.1  | 0.0  | 0.0 | 0.0 | 45.5  | 122.0 | 26.6 |
| Total Del/Veh (s)  | 69.0 | 14.8 | 24.6 | 9.7 | 6.9 | 125.5 | 156.8 | 76.0 |
| Stop Del/Veh (s)   | 67.1 | 14.4 | 14.4 | 2.1 | 1.3 | 71.2  | 86.7  | 41.8 |

### 8: Dixie Road & 12489 Site Access 1 Performance by movement

| Movement           | NBT | NBR | SBT  | All  |
|--------------------|-----|-----|------|------|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.6  | 0.4  |
| Total Del/Veh (s)  | 7.6 | 6.4 | 53.2 | 34.4 |
| Stop Del/Veh (s)   | 0.3 | 0.2 | 26.5 | 15.7 |

### 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2 Performance by movement

| Movement           | EBL  | EBR  | WBL  | WBR  | NBL  | NBT  | NBR | SBL   | SBT   | SBR  | All  |
|--------------------|------|------|------|------|------|------|-----|-------|-------|------|------|
| Denied Del/Veh (s) | 4.1  | 0.2  | 4.0  | 0.4  | 0.0  | 0.0  | 0.0 | 0.0   | 0.7   | 0.0  | 0.6  |
| Total Del/Veh (s)  | 54.3 | 34.9 | 63.1 | 23.2 | 55.2 | 12.9 | 4.4 | 118.6 | 109.0 | 14.9 | 67.6 |
| Stop Del/Veh (s)   | 51.1 | 33.4 | 59.5 | 20.7 | 50.8 | 3.7  | 0.4 | 81.0  | 65.7  | 10.0 | 41.1 |

### 11: Dixie Road & 12861 Site Access 1 Performance by movement

| Movement           | WBR  | NBT  | NBR | SBT  | All  |
|--------------------|------|------|-----|------|------|
| Denied Del/Veh (s) | 0.1  | 0.1  | 0.1 | 9.4  | 5.4  |
| Total Del/Veh (s)  | 21.4 | 11.6 | 9.7 | 10.1 | 10.9 |
| Stop Del/Veh (s)   | 20.8 | 0.1  | 0.1 | 4.6  | 2.9  |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | EBL  | EBT  | EBR | WBL  | WBT  | WBR  | NBL  | NBT  | NBR | SBL  | SBT  | SBR |
|--------------------|------|------|-----|------|------|------|------|------|-----|------|------|-----|
| Denied Del/Veh (s) | 3.5  | 0.7  | 3.5 | 0.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0 | 3.3  | 0.6  | 3.4 |
| Total Del/Veh (s)  | 28.6 | 24.7 | 7.5 | 52.4 | 42.0 | 38.3 | 41.5 | 28.8 | 6.4 | 47.6 | 19.7 | 6.3 |
| Stop Del/Veh (s)   | 25.3 | 18.9 | 6.4 | 49.1 | 36.8 | 36.3 | 36.2 | 17.1 | 2.5 | 44.1 | 11.7 | 4.6 |

### 12: Dixie Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.7  |
| Total Del/Veh (s)  | 29.6 |
| Stop Del/Veh (s)   | 22.8 |

### 13: 12861 Site Access 2 & Old School Road Performance by movement

| Movement           | EBT | EBR | WBT  | NBR | All  |
|--------------------|-----|-----|------|-----|------|
| Denied Del/Veh (s) | 0.0 | 0.0 | 0.0  | 0.1 | 0.0  |
| Total Del/Veh (s)  | 1.0 | 1.1 | 45.0 | 2.1 | 29.6 |
| Stop Del/Veh (s)   | 0.3 | 0.6 | 39.9 | 2.0 | 26.1 |

### 14: 12861 Site Access 3 & Old School Road Performance by movement

| Movement           | EBT  | WBL  | WBT  | NBL | NBR | All  |
|--------------------|------|------|------|-----|-----|------|
| Denied Del/Veh (s) | 0.0  | 3.8  | 0.2  | 0.2 | 0.2 | 0.1  |
| Total Del/Veh (s)  | 28.8 | 62.8 | 28.7 | 8.0 | 5.4 | 25.4 |
| Stop Del/Veh (s)   | 22.5 | 58.8 | 21.0 | 6.0 | 5.0 | 19.2 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | EBL | EBT  | EBR | WBL  | WBT  | WBR | NBL | NBT  | NBR | SBL | SBT  | SBR |
|--------------------|-----|------|-----|------|------|-----|-----|------|-----|-----|------|-----|
| Denied Del/Veh (s) | 0.4 | 0.3  | 0.4 | 0.6  | 0.4  | 1.0 | 0.3 | 0.2  | 0.2 | 0.1 | 0.2  | 0.1 |
| Total Del/Veh (s)  | 8.2 | 11.7 | 5.7 | 15.3 | 13.6 | 8.0 | 8.3 | 11.7 | 6.3 | 6.9 | 10.2 | 3.5 |
| Stop Del/Veh (s)   | 4.6 | 4.1  | 3.0 | 12.7 | 7.0  | 6.4 | 4.4 | 4.2  | 3.8 | 4.0 | 3.9  | 3.1 |

### 15: Bramalea Road & Old School Road Performance by movement

| Movement           | All  |
|--------------------|------|
| Denied Del/Veh (s) | 0.3  |
| Total Del/Veh (s)  | 11.4 |
| Stop Del/Veh (s)   | 5.2  |



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Total Network Performance

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|                    |       |
|--------------------|-------|
| Denied Del/Veh (s) | 10.9  |
| Total Del/Veh (s)  | 140.2 |
| Stop Del/Veh (s)   | 94.4  |

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Intersection: 1: Dixie Road & Mayfield Road

| Movement              | EB    | EB    | EB    | EB    | EB    | WB    | WB    | WB    | WB    | WB    | NB    | NB    |
|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Directions Served     | L     | L     | T     | T     | T     | L     | T     | T     | T     | R     | L     | T     |
| Maximum Queue (m)     | 137.4 | 158.1 | 109.1 | 128.3 | 129.0 | 184.8 | 218.4 | 208.6 | 150.9 | 37.4  | 75.3  | 45.2  |
| Average Queue (m)     | 91.7  | 97.9  | 51.9  | 59.9  | 56.5  | 18.1  | 146.8 | 130.9 | 101.2 | 1.3   | 46.3  | 24.5  |
| 95th Queue (m)        | 136.3 | 145.7 | 88.8  | 99.6  | 98.2  | 72.4  | 197.7 | 189.8 | 149.3 | 12.8  | 75.7  | 40.4  |
| Link Distance (m)     |       |       | 988.7 | 988.7 | 988.7 |       | 280.2 | 280.2 | 280.2 |       |       | 847.5 |
| Upstream Blk Time (%) |       |       |       |       |       |       |       |       |       |       |       |       |
| Queuing Penalty (veh) |       |       |       |       |       |       |       |       |       |       |       |       |
| Storage Bay Dist (m)  | 115.0 | 115.0 |       |       |       | 115.0 |       |       |       | 110.0 | 115.0 |       |
| Storage Blk Time (%)  | 1     | 4     | 0     |       | 2     |       | 25    |       | 3     |       |       |       |
| Queuing Penalty (veh) | 5     | 17    | 0     |       | 4     |       | 15    |       | 3     |       |       |       |

Intersection: 1: Dixie Road & Mayfield Road

| Movement              | NB    | NB   | SB    | SB    | SB    | SB    |
|-----------------------|-------|------|-------|-------|-------|-------|
| Directions Served     | T     | R    | L     | T     | T     | R     |
| Maximum Queue (m)     | 43.6  | 21.8 | 112.1 | 469.2 | 482.8 | 205.0 |
| Average Queue (m)     | 19.2  | 0.8  | 49.2  | 135.8 | 414.6 | 201.1 |
| 95th Queue (m)        | 34.0  | 7.5  | 91.1  | 429.2 | 632.8 | 224.8 |
| Link Distance (m)     | 847.5 |      |       | 469.3 | 469.3 |       |
| Upstream Blk Time (%) |       |      |       | 0     | 5     |       |
| Queuing Penalty (veh) |       |      |       | 0     | 37    |       |
| Storage Bay Dist (m)  |       | 65.0 | 115.0 |       |       | 135.0 |
| Storage Blk Time (%)  |       |      | 0     |       |       | 60    |
| Queuing Penalty (veh) |       |      | 0     |       |       | 88    |

Intersection: 5: Dixie Road & Spiers Griggen Avenue/12173 Site Access 3

| Movement              | EB   | EB    | EB   | WB   | WB    | NB   | NB    | NB    | SB    | SB    | SB   |
|-----------------------|------|-------|------|------|-------|------|-------|-------|-------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR    | L    | T     | TR    | LT    | T     | R    |
| Maximum Queue (m)     | 21.7 | 39.9  | 22.5 | 22.4 | 61.6  | 38.1 | 62.9  | 73.7  | 362.0 | 370.3 | 72.5 |
| Average Queue (m)     | 10.1 | 5.7   | 14.6 | 15.6 | 12.3  | 6.1  | 18.3  | 23.9  | 243.8 | 292.8 | 15.7 |
| 95th Queue (m)        | 20.0 | 24.1  | 21.9 | 26.5 | 42.2  | 18.4 | 46.9  | 60.1  | 464.5 | 487.1 | 64.6 |
| Link Distance (m)     |      | 232.4 |      |      | 104.9 |      | 469.3 | 469.3 | 360.0 | 360.0 |      |
| Upstream Blk Time (%) |      |       |      |      |       |      |       |       | 2     | 8     |      |
| Queuing Penalty (veh) |      |       |      |      |       |      |       |       | 14    | 58    |      |
| Storage Bay Dist (m)  | 15.0 |       | 15.0 | 15.0 |       | 70.0 |       |       |       |       | 65.0 |
| Storage Blk Time (%)  | 21   | 0     | 16   | 40   | 0     |      |       |       |       | 68    | 0    |
| Queuing Penalty (veh) | 22   | 0     | 7    | 2    | 0     |      |       |       |       | 7     | 0    |

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Intersection: 7: Dixie Road & UPS Facility Access/12173 West Access 1

| Movement              | EB    | WB   | NB    | NB    | SB    |
|-----------------------|-------|------|-------|-------|-------|
| Directions Served     | L     | R    | LT    | TR    | TR    |
| Maximum Queue (m)     | 14.1  | 20.4 | 71.7  | 87.7  | 735.6 |
| Average Queue (m)     | 1.6   | 3.7  | 22.0  | 16.9  | 464.9 |
| 95th Queue (m)        | 6.7   | 12.5 | 52.3  | 53.6  | 984.3 |
| Link Distance (m)     | 102.2 | 77.2 | 360.0 | 360.0 | 699.7 |
| Upstream Blk Time (%) |       |      |       |       | 27    |
| Queuing Penalty (veh) |       |      |       |       | 364   |
| Storage Bay Dist (m)  |       |      |       |       |       |
| Storage Blk Time (%)  |       |      |       |       |       |
| Queuing Penalty (veh) |       |      |       |       |       |

Intersection: 8: Dixie Road & 12489 Site Access 1

| Movement              | SB    |
|-----------------------|-------|
| Directions Served     | LT    |
| Maximum Queue (m)     | 375.1 |
| Average Queue (m)     | 133.4 |
| 95th Queue (m)        | 404.1 |
| Link Distance (m)     | 375.1 |
| Upstream Blk Time (%) | 0     |
| Queuing Penalty (veh) | 3     |
| Storage Bay Dist (m)  |       |
| Storage Blk Time (%)  |       |
| Queuing Penalty (veh) |       |

Intersection: 10: Dixie Road & 12892 Site Access 2/12489 Site Access 2

| Movement              | EB   | EB    | WB   | WB    | NB   | NB    | NB   | SB    | SB    | SB   |
|-----------------------|------|-------|------|-------|------|-------|------|-------|-------|------|
| Directions Served     | L    | TR    | L    | TR    | L    | T     | R    | L     | T     | R    |
| Maximum Queue (m)     | 27.4 | 31.8  | 27.2 | 95.3  | 29.9 | 113.3 | 13.0 | 154.8 | 852.9 | 7.4  |
| Average Queue (m)     | 11.9 | 13.6  | 21.5 | 23.4  | 7.6  | 58.9  | 1.2  | 12.5  | 356.4 | 0.3  |
| 95th Queue (m)        | 24.8 | 29.1  | 31.7 | 67.1  | 20.4 | 116.3 | 7.0  | 77.8  | 831.5 | 2.5  |
| Link Distance (m)     |      | 171.5 |      | 134.0 |      | 375.1 |      |       | 819.4 |      |
| Upstream Blk Time (%) |      |       |      |       |      |       |      |       | 14    |      |
| Queuing Penalty (veh) |      |       |      |       |      |       |      |       | 171   |      |
| Storage Bay Dist (m)  | 20.0 |       | 20.0 |       | 60.0 |       | 60.0 | 60.0  |       | 60.0 |
| Storage Blk Time (%)  | 4    | 9     | 34   | 0     |      | 5     |      |       | 32    |      |
| Queuing Penalty (veh) | 2    | 3     | 19   | 0     |      | 2     |      |       | 6     |      |

Queuing and Blocking Report  
Future Total 2028 PM Peak Hour

07-24-2025

Intersection: 11: Dixie Road & 12861 Site Access 1

| Movement              | WB   | SB    |
|-----------------------|------|-------|
| Directions Served     | R    | T     |
| Maximum Queue (m)     | 29.2 | 149.1 |
| Average Queue (m)     | 10.5 | 18.7  |
| 95th Queue (m)        | 24.6 | 94.8  |
| Link Distance (m)     | 89.6 | 215.0 |
| Upstream Blk Time (%) |      |       |
| Queuing Penalty (veh) |      |       |
| Storage Bay Dist (m)  |      |       |
| Storage Blk Time (%)  |      |       |
| Queuing Penalty (veh) |      |       |

Intersection: 12: Dixie Road & Old School Road

| Movement              | EB   | EB    | EB   | WB   | WB   | NB   | NB    | NB    | SB   | SB    | SB   |
|-----------------------|------|-------|------|------|------|------|-------|-------|------|-------|------|
| Directions Served     | L    | T     | R    | L    | TR   | L    | T     | R     | L    | T     | R    |
| Maximum Queue (m)     | 40.2 | 46.2  | 23.0 | 43.0 | 72.2 | 70.5 | 165.5 | 125.0 | 33.1 | 86.6  | 14.0 |
| Average Queue (m)     | 19.1 | 23.1  | 9.0  | 37.8 | 64.3 | 30.5 | 85.0  | 19.7  | 7.0  | 36.2  | 4.0  |
| 95th Queue (m)        | 32.0 | 39.1  | 16.7 | 51.4 | 76.7 | 58.1 | 144.6 | 79.7  | 20.8 | 72.7  | 9.6  |
| Link Distance (m)     |      | 382.3 |      |      | 43.2 |      | 215.0 |       |      | 274.1 |      |
| Upstream Blk Time (%) |      |       |      | 10   | 46   |      |       |       |      |       |      |
| Queuing Penalty (veh) |      |       |      | 0    | 255  |      |       |       |      |       |      |
| Storage Bay Dist (m)  | 75.0 |       | 75.0 | 65.0 |      | 75.0 |       | 50.0  | 75.0 |       | 75.0 |
| Storage Blk Time (%)  |      |       |      | 10   | 46   | 0    | 21    |       |      | 1     |      |
| Queuing Penalty (veh) |      |       |      | 38   | 91   | 0    | 42    |       |      | 1     |      |

Intersection: 13: 12861 Site Access 2 & Old School Road

| Movement              | WB    | WB    | NB    |
|-----------------------|-------|-------|-------|
| Directions Served     | T     | T     | R     |
| Maximum Queue (m)     | 115.7 | 116.7 | 8.2   |
| Average Queue (m)     | 56.1  | 48.0  | 1.4   |
| 95th Queue (m)        | 108.9 | 96.9  | 6.3   |
| Link Distance (m)     | 439.5 | 439.5 | 166.2 |
| Upstream Blk Time (%) |       |       |       |
| Queuing Penalty (veh) |       |       |       |
| Storage Bay Dist (m)  |       |       |       |
| Storage Blk Time (%)  |       |       |       |
| Queuing Penalty (veh) |       |       |       |

Queuing and Blocking Report  
Future Total 2028 PM Peak Hour

07-24-2025

Intersection: 14: 12861 Site Access 3 & Old School Road

| Movement              | EB    | EB    | WB   | WB    | WB    | NB    |
|-----------------------|-------|-------|------|-------|-------|-------|
| Directions Served     | T     | T     | L    | T     | T     | LR    |
| Maximum Queue (m)     | 41.7  | 48.3  | 20.4 | 85.0  | 56.2  | 48.4  |
| Average Queue (m)     | 25.7  | 29.1  | 4.9  | 46.2  | 27.9  | 15.7  |
| 95th Queue (m)        | 41.9  | 45.8  | 15.7 | 69.6  | 58.2  | 35.9  |
| Link Distance (m)     | 439.5 | 439.5 |      | 174.8 | 174.8 | 189.2 |
| Upstream Blk Time (%) |       |       |      |       |       |       |
| Queuing Penalty (veh) |       |       |      |       |       |       |
| Storage Bay Dist (m)  |       |       | 95.0 |       |       |       |
| Storage Blk Time (%)  |       | 1     |      |       |       |       |
| Queuing Penalty (veh) |       | 0     |      |       |       |       |

Intersection: 15: Bramalea Road & Old School Road

| Movement              | EB    | WB   | NB    | SB    |
|-----------------------|-------|------|-------|-------|
| Directions Served     | LTR   | LTR  | LTR   | LTR   |
| Maximum Queue (m)     | 35.2  | 76.8 | 28.2  | 18.0  |
| Average Queue (m)     | 20.3  | 24.8 | 14.8  | 10.4  |
| 95th Queue (m)        | 32.3  | 48.1 | 22.9  | 15.5  |
| Link Distance (m)     | 120.6 | 90.4 | 175.7 | 122.2 |
| Upstream Blk Time (%) |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |
| Storage Bay Dist (m)  |       |      |       |       |
| Storage Blk Time (%)  |       |      |       |       |
| Queuing Penalty (veh) |       |      |       |       |

Network Summary

Network wide Queuing Penalty: 1278

## **Appendix J: Signal Warrant**

# Analysis Sheet

Input Sheet

Results Sheet

Proposed Collision

GO TO Justification:

Intersection: Site Access 2 / Dixie Road

Count Date: 2017-10-03

## Justification 1: Minimum Vehicle Volumes

### Restricted Flow Urban Conditions

| Justification                              | Guidance Approach Lanes                          |                                                    |                                                  |                                                               | Percentage Warrant                                                                                         |       |       |       |       |       |       |       | Total Across                                                 | Section Percent |                                                                                  |  |
|--------------------------------------------|--------------------------------------------------|----------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|--------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------|--|
|                                            | 1 Lanes                                          |                                                    | 2 or More Lanes                                  |                                                               | Hour Ending                                                                                                |       |       |       |       |       |       |       |                                                              |                 |                                                                                  |  |
| Flow Condition                             | FREE FLOW<br><div><input type="checkbox"/></div> | RESTR. FLOW<br><div><input type="checkbox"/></div> | FREE FLOW<br><div><input type="checkbox"/></div> | RESTR. FLOW<br><div><input checked="" type="checkbox"/></div> | 8:00                                                                                                       | 9:00  | 10:00 | 13:00 | 15:00 | 16:00 | 17:00 | 18:00 |                                                              |                 |                                                                                  |  |
| 1A                                         | 480                                              | 720                                                | 600                                              | 900                                                           | 1,225                                                                                                      | 1,490 | 260   | 1,015 | 895   | 1,220 | 1,510 | 1,605 | 728                                                          | 91              |                                                                                  |  |
|                                            | COMPLIANCE %                                     |                                                    |                                                  |                                                               | 100                                                                                                        | 100   | 29    | 100   | 99    | 100   | 100   | 100   |                                                              |                 |                                                                                  |  |
| 1B                                         | 120                                              | 170                                                | 120                                              | 170                                                           | 40                                                                                                         | 110   | 60    | 235   | 210   | 105   | 175   | 235   |                                                              |                 |                                                                                  |  |
|                                            | COMPLIANCE %                                     |                                                    |                                                  |                                                               | 24                                                                                                         | 65    | 35    | 100   | 100   | 62    | 100   | 100   | 585                                                          | 73              |                                                                                  |  |
| Restricted Flow<br>Signal Justification 1: |                                                  |                                                    |                                                  |                                                               | Both 1A and 1B 100% Fulfilled each of 8 hours<br>Lesser of 1A or 1B at least 80% fulfilled each of 8 hours |       |       |       |       |       |       |       | Yes <input type="checkbox"/><br>Yes <input type="checkbox"/> |                 | No <input checked="" type="checkbox"/><br>No <input checked="" type="checkbox"/> |  |

## Justification 2: Delay to Cross Traffic

### Restricted Flow Urban Conditions

| Justification                              | Guidance Approach Lanes               |                                      |                                       |                                                 | Percentage Warrant                                                                                         |       |       |       |       |       |                                                                                                                                                  |       | Total<br>Across | Section<br>Percent |  |
|--------------------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------|--------------------|--|
|                                            | 1 lanes                               |                                      | 2 or More lanes                       |                                                 | Hour Ending                                                                                                |       |       |       |       |       |                                                                                                                                                  |       |                 |                    |  |
| Flow<br>Condition                          | FREE FLOW<br><input type="checkbox"/> | RESTR.<br>W <input type="checkbox"/> | FREE FLOW<br><input type="checkbox"/> | RESTR.<br>W <input checked="" type="checkbox"/> | 8:00                                                                                                       | 9:00  | 10:00 | 13:00 | 15:00 | 16:00 | 17:00                                                                                                                                            | 18:00 |                 |                    |  |
| 2A                                         | 480                                   | 720                                  | 600                                   | 900                                             | 1,185                                                                                                      | 1,380 | 200   | 780   | 685   | 1,115 | 1,335                                                                                                                                            | 1,370 | 685             | 86                 |  |
|                                            | COMPLIANCE %                          |                                      |                                       |                                                 | 100                                                                                                        | 100   | 22    | 87    | 76    | 100   | 100                                                                                                                                              | 100   |                 |                    |  |
| 2B                                         | 50                                    | 75                                   | 50                                    | 75                                              | 50                                                                                                         | 90    | 65    | 155   | 140   | 85    | 125                                                                                                                                              | 155   |                 |                    |  |
|                                            | COMPLIANCE %                          |                                      |                                       |                                                 | 67                                                                                                         | 100   | 87    | 100   | 100   | 100   | 100                                                                                                                                              | 100   | 753             | 94                 |  |
| Restricted Flow<br>Signal Justification 2: |                                       |                                      |                                       |                                                 | Both 2A and 2B 100% Fulfilled each of 8 hours<br>Lesser of 2A or 2B at least 80% fulfilled each of 8 hours |       |       |       |       |       | Yes <input type="checkbox"/><br>Yes <input checked="" type="checkbox"/><br>No <input type="checkbox"/><br>No <input checked="" type="checkbox"/> |       |                 |                    |  |

## Justification 3: Combination

### Combination Justification 1 and 2

| Justification Satisfied 80% or More |                          |                                        |                                        | Two Justifications Satisfied 80% or More |                                        |
|-------------------------------------|--------------------------|----------------------------------------|----------------------------------------|------------------------------------------|----------------------------------------|
| Justification 1                     | Minimun Vehicular Volume | XX <input type="checkbox"/>            | YY <input checked="" type="checkbox"/> | YES <input type="checkbox"/>             | NO <input checked="" type="checkbox"/> |
| Justification 2                     | Delay Cross Traffic      | YY <input checked="" type="checkbox"/> | ZZ <input type="checkbox"/>            |                                          | NOT JUSTIFIED                          |

## Justification 4: Four Hour Volume

| Justification   | Time Period | Total Volume of Both Approaches (Main) | Heaviest Minor Approach | Required Value        | Average % Compliance | Overall % Compliance |
|-----------------|-------------|----------------------------------------|-------------------------|-----------------------|----------------------|----------------------|
|                 |             | X                                      | Y (actual)              | Y (warrant threshold) |                      |                      |
| Justification 4 | 8:00        | 1,185                                  | 25                      | 141                   | 18 %                 | 67 %                 |
|                 | 9:00        | 1,380                                  | 65                      | 115                   | 57 %                 |                      |
|                 | 17:00       | 1,335                                  | 110                     | 115                   | 96 %                 |                      |
|                 | 18:00       | 1,370                                  | 145                     | 115                   | 100 %                |                      |

# Analysis Sheet

[Input Sheet](#)
[Results Sheet](#)
[Proposed Collision](#)
[GO TO Justification:](#)

Intersection: Site Access 2 / Dixie Road

Count Date: 2017-10-03

## Justification 5: Collision Experience

| Justification   | Preceding Months | % Fulfillment | Overall % Compliance |
|-----------------|------------------|---------------|----------------------|
| Justification 5 | 1-12             | 0 %           | 0 %                  |
|                 | 13-24            | 0 %           |                      |
|                 | 25-36            | 0 %           |                      |

## Justification 6: Pedestrian Volume

### Pedestrian Volume Analysis

| 8 Hour Vehicular Volume $V_8$ |             | Net 8 Hour Pedestrian Volume |           |           |            |           |
|-------------------------------|-------------|------------------------------|-----------|-----------|------------|-----------|
|                               |             | < 200                        | 200 - 275 | 276 - 475 | 476 - 1000 | >1000     |
| Justification 6A              | < 1440      |                              |           |           |            |           |
|                               | 1440 - 2600 |                              |           |           |            | Justified |
|                               | 2601 - 7000 |                              |           |           |            |           |
|                               | > 7000      |                              |           |           |            |           |

### Pedestrian Delay Analysis

| Net Total 8 Hour Volume of Total Pedestrians |           | Net Total 8 Hour Volume of Delayed Pedestrians |          |       |
|----------------------------------------------|-----------|------------------------------------------------|----------|-------|
|                                              |           | < 75                                           | 75 - 130 | > 130 |
| Justification 6B                             | < 200     |                                                |          |       |
|                                              | 200 - 300 |                                                |          |       |
|                                              | > 300     | Not Justified                                  |          |       |



## Input Data Sheet

[Analysis Sheet](#)
[Results Sheet](#)
[Proposed Collision](#)
[GO TO Justification:](#)

What are the intersecting roadways?

Dixie Road / Site Access 2

What is the direction of the Main Road street?

North-South

When was the data collected?

2022

### Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road?

2 or more

b.- Number of lanes on the Minor Road?

1

c.- How many approaches?

4

d.- What is the operating environment?

Rural

Population &lt; 10,000

AND

Speed &gt;= 70 km/hr

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

| Hour Ending | Main Northbound Approach |       |     | Minor Eastbound Approach |    |     | Main Southbound Approach |       |    | Minor Westbound Approach |    |     | Pedestrians Crossing Main Road |
|-------------|--------------------------|-------|-----|--------------------------|----|-----|--------------------------|-------|----|--------------------------|----|-----|--------------------------------|
|             | LT                       | TH    | RT  | LT                       | TH | RT  | LT                       | TH    | RT | LT                       | TH | RT  |                                |
| 7:00        | 25                       | 290   | 20  | 15                       | 0  | 20  | 15                       | 335   | 10 | 35                       | 0  | 20  | 60                             |
| 8:00        | 25                       | 290   | 20  | 15                       | 0  | 20  | 15                       | 335   | 10 | 35                       | 0  | 20  | 60                             |
| 9:00        | 25                       | 290   | 20  | 15                       | 0  | 20  | 15                       | 335   | 10 | 35                       | 0  | 20  | 60                             |
| 10:00       | 25                       | 290   | 20  | 15                       | 0  | 20  | 15                       | 335   | 10 | 35                       | 0  | 20  | 60                             |
| 11:00       | 25                       | 290   | 20  | 15                       | 0  | 20  | 15                       | 335   | 10 | 35                       | 0  | 20  | 60                             |
| 12:00       | 25                       | 290   | 20  | 15                       | 0  | 20  | 15                       | 335   | 10 | 35                       | 0  | 20  | 60                             |
| 13:00       | 25                       | 290   | 20  | 15                       | 0  | 20  | 15                       | 335   | 10 | 35                       | 0  | 20  | 60                             |
| 14:00       | 25                       | 290   | 20  | 15                       | 0  | 20  | 15                       | 335   | 10 | 35                       | 0  | 20  | 60                             |
| Total       | 200                      | 2,320 | 160 | 120                      | 0  | 160 | 120                      | 2,680 | 80 | 280                      | 0  | 160 | 480                            |

### Justification 5: Collision Experience

| Preceding Months | Number of Collisions* |
|------------------|-----------------------|
| 1-12             | 0                     |
| 13-24            | 0                     |
| 25-36            | 0                     |

\* Include only collisions that are susceptible to correction through the installation of traffic signal control

### Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

|                                                     | Zone 1   |            | Zone 2   |            | Zone 3 (if needed) |            | Zone 4 (if needed) |            | Total |
|-----------------------------------------------------|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
|                                                     | Assisted | Unassisted | Assisted | Unassisted | Assisted           | Unassisted | Assisted           | Unassisted |       |
| Total 8 hour pedestrian volume                      | 10,000   | 5          | 10       | 5          | 0                  | 0          | 0                  | 0          |       |
| Factored 8 hour pedestrian volume                   | 20,005   |            | 25       |            | 0                  |            | 0                  |            |       |
| % Assigned to crossing rate                         | 23%      |            | 34%      |            | 30%                |            | 100%               |            |       |
| Net 8 Hour Pedestrian Volume at Crossing            |          |            |          |            |                    |            |                    |            | 4,610 |
| Net 8 Hour Vehicular Volume on Street Being Crossed |          |            |          |            |                    |            |                    |            | 2,000 |

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

|                                                          | Zone 1   |            | Zone 2   |            | Zone 3 (if needed) |            | Zone 4 (if needed) |            | Total |
|----------------------------------------------------------|----------|------------|----------|------------|--------------------|------------|--------------------|------------|-------|
|                                                          | Assisted | Unassisted | Assisted | Unassisted | Assisted           | Unassisted | Assisted           | Unassisted |       |
| Total 8 hour pedestrian volume                           | 10,000   | 5          | 10       | 5          | 0                  | 0          | 0                  | 0          |       |
| Total 8 hour pedestrians delayed greater than 10 seconds | 10       | 10         | 1        | 6          | 2                  | 4          | 0                  | 0          |       |
| Factored volume of total pedestrians                     | 20,005   |            | 25       |            | 0                  |            | 0                  |            |       |
| Factored volume of delayed pedestrians                   | 30       |            | 8        |            | 8                  |            | 0                  |            |       |
| % Assigned to Crossing Rate                              | 23%      |            | 34%      |            | 30%                |            | 100%               |            |       |
| Net 8 Hour Volume of Total Pedestrians                   |          |            |          |            |                    |            |                    |            | 4,610 |
| Net 8 Hour Volume of Delayed Pedestrians                 |          |            |          |            |                    |            |                    |            | 12    |

## **Appendix K: Left Turn Warrant**

Volumes

|           | VA                | VL | VO   | %   | Design Speed     |
|-----------|-------------------|----|------|-----|------------------|
|           | Future Total 2033 |    |      |     | 60               |
| Int 10 AM | 865               | 50 | 1055 | 5%  | 60 Warranted     |
| int 10 PM | 1230              | 15 | 835  | 0%  | 60 Warranted     |
| Int 14 AM | 295               | 30 | 410  | 10% | 60 Not Warranted |
| Int 14 PM | 440               | 10 | 265  | 0%  | 60 Not Warranted |

Exhibit-9A-7

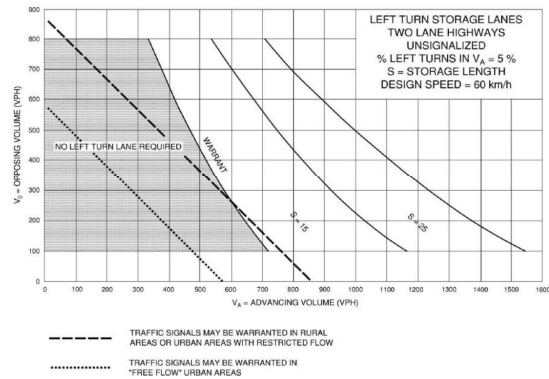


Exhibit-9A-11

