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Transportation Impact Study

PROPOSED TRANSPORT TRUCK & TRAILER PARKING FACILITY

12434 Dixie Road
Town of Caledon, ON

August 7, 2026
Project No: NT-20-105

TOWN OF CALEDON
PLANNING
RECEIVED
Sep 11, 2026

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nexTrans CONSULTING ENGINEERS
NextEng Consulting Group Inc.

August 7, 2026

Nishan Transport Inc.
1805 Chemin Saint-Francois
Dorval, QC H9P 2S1

Attention: **Rajwinder Singh**

Re: **Engineering Serivce – Transportation Impact Study**
Proposed Transport Truck & Trailer Parking Facility
12434 Dixie Road, Town of Caledon
Our Project No. NT-20-105

NexTrans Consulting Engineers (a Division of NextEng Consulting Group Inc.) is pleased to present the enclosed Transportation Impact Study in support of a Zoning By-law Amendment application for a proposed temporary transport truck and trailer parking facility.

The 10.70 ha subject lands are located on the west side of Dixie Road, approximately 1.4 km north of Mayfield Road, in the Town of Caledon. The subject lands currently operate as a temporary truck and trailer parking facility. The proposed development consists of an interim condition that maintains the existing truck and trailer parking operation, including 115 vehicle parking spaces, and an ultimate condition that redevelops a portion of the site to accommodate an 11,280 m² transportation depot incorporating a cross-dock facility and a 1,433 m² six-bay truck wash facility, while retaining truck and trailer parking on the remainder of the site and providing 108 vehicle parking spaces. Vehicular access to the site is currently provided via a full-movement driveway on Dixie Road, which shares a common curb cut with the adjacent property at 12424 Dixie Road.

This study concludes that the existing site traffic, as well as the forecast site traffic associated with both the interim and ultimate development conditions, will have a negligible impact on the surrounding road network. Accordingly, the proposed development can be accommodated by the existing and planned transportation network. We trust the enclosed report sufficiently addresses your requirements. Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Yours truly,

NEXTRANS CONSULTING ENGINEERS

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Issues and Revisions Registry

Identification	Date	Description of issued and/or revision
Transportation Impact Study	July 16, 2026	1st Submission

EXECUTIVE SUMMARY

NexTrans Consulting Engineers (a Division of NextEng Consulting Group Inc.) is pleased to present the enclosed Transportation Impact Study in support of a Zoning By-law Amendment application for a proposed temporary truck and trailer parking facility under interim conditions and a transportation depot incorporating a cross-dock facility under ultimate conditions.

Development Proposal

The 10.70 ha subject lands are located on the west side of Dixie Road, approximately 1.4 km north of Mayfield Road, in the Town of Caledon. The subject lands currently operate as a temporary truck and trailer parking facility. The proposed development consists of an interim condition that maintains the existing truck and trailer parking operation, including 115 vehicle parking spaces, and an ultimate condition that redevelops a portion of the site to accommodate an 11,280 m² transportation depot incorporating a cross-dock facility and a 1,433 m² six-bay truck wash facility, while retaining truck and trailer parking on the remainder of the site and providing 108 vehicle parking spaces. Vehicular access to the site is currently provided via a full-movement driveway on Dixie Road, which shares a common curb cut with the adjacent property at 12424 Dixie Road.

A net trip generation assessment indicates that the interim development will not generate additional site traffic, while the ultimate development is forecast to generate 36 two-way trips during the weekday AM peak hour and 50 two-way trips during the weekday PM peak hour. These traffic volumes are generally consistent with the existing site operation and are expected to have a negligible impact on the surrounding transportation network.

Capacity Analysis

The operational assessment considered existing conditions, 2033 Future Background conditions, and 2038 Future Total (Ultimate) conditions. Under existing conditions, all study area intersections and the subject driveway operate with acceptable levels of service, residual capacity, and manageable delays and queues.

Although operational deficiencies are forecast at the Mayfield Road/Dixie Road intersection under the 2033 Future Background scenario, a sensitivity assessment incorporating the Region of Peel's planned roadway improvements demonstrates that these deficiencies are attributable to the interim roadway network rather than the proposed development. Under the 2038 Future Total (Ultimate) conditions, the study area intersections and the subject driveway are projected to operate with acceptable levels of service, residual capacity, and manageable delays and queues, with the proposed development resulting in only negligible changes to future traffic operations.

Access Review

The forecast site traffic falls within the low-impact threshold established by the Region of Peel's Road Characterization Study. Accordingly, no access restrictions or auxiliary turn lanes are required to accommodate the proposed development. Although the existing full-movement access does not satisfy the recommended access spacing criteria for a Suburban Connector, the existing shared access configuration is constrained by aquatic features along the site frontage and is considered appropriate given the low forecast traffic volumes and acceptable operational performance demonstrated throughout this study.

The completed sight distance assessment confirms that the available stopping sight distance and departure sight distance exceed the minimum requirements of the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (2017). Based on the findings of this Transportation Impact Study, the proposed development is expected to operate safely and efficiently within the surrounding transportation network, and from a transportation perspective, the proposed development can be supported.

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1.0 INTRODUCTION

NexTrans Consulting Engineers (a Division of NextEng Consulting Group Inc.) is pleased to present the enclosed Transportation Impact Study in support of a Zoning By-law Amendment application for a proposed temporary transport truck and trailer parking facility. The subject property is located west of Dixie Road and approximately 1.4km north of Mayfield Road, and is municipally addressed as 12434 Dixie Road (herein referred to as the "subject site") in the Town of Caledon.

The location of the proposed development is illustrated in **Figure 1-1**.

Figure 1-1 – Subject Site Location



The proposed site plan is illustrated in **Figure 1-2** and is enclosed in full detail in **Appendix A**.

The 10.70 ha subject lands are located on the west side of Dixie Road, approximately 1.4 km north of Mayfield Road, in the Town of Caledon. The subject lands currently operate as a temporary truck and trailer parking facility. The proposed development consists of an interim condition that maintains the existing truck and trailer parking operation, including 115 vehicle parking spaces, and an ultimate condition that redevelops a portion of the site to accommodate an 11,280 m² transportation depot incorporating a cross-dock facility and a 1,433 m² six-bay truck wash facility, while

retaining truck and trailer parking on the remainder of the site and providing 108 vehicle parking spaces. Vehicular access to the site is currently provided via a full-movement driveway on Dixie Road, which shares a common curb cut with the adjacent property at 12424 Dixie Road.

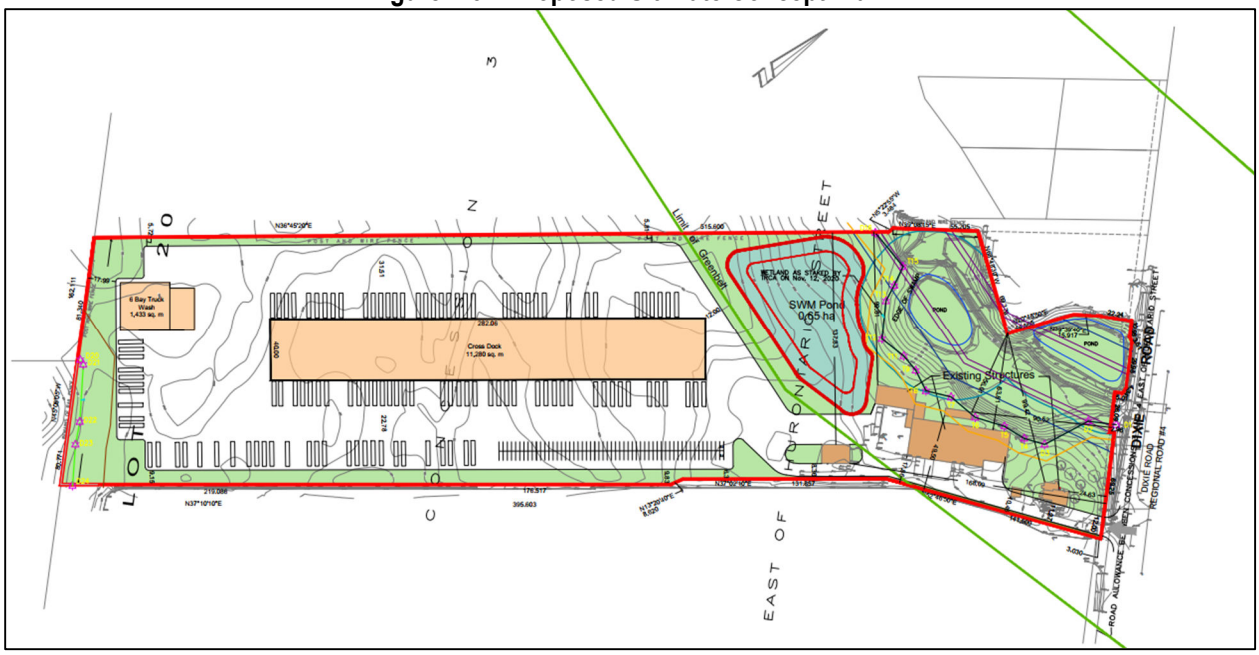
The concept plan of the existing site and interim condition is illustrated in **Figure 1-2**.

Figure 1-2 – Proposed Interim Concept Plan



The concept plan of the proposed ultimate condition is illustrated in **Figure 1-3,** and both concept plans are enclosed in full detail in **Appendix A**.

Figure 1-3 – Proposed Ultimate Concept Plan



1.1. Study Approach

The weekday morning (AM) and weekday afternoon (PM) peak hours were assessed. Existing conditions were evaluated using a 2026 baseline year. An assumed build-out year of 2028 was adopted, with a five-year horizon (2033) selected for the assessment of the interim condition and a ten-year horizon (2038) selected for the assessment of the ultimate condition.

The Terms of Reference established with the Town and the Region, as well as correspondence, are enclosed in **Appendix B**.

2.0 EXISTING TRAFFIC CONDITIONS

2.1. Existing Road Network

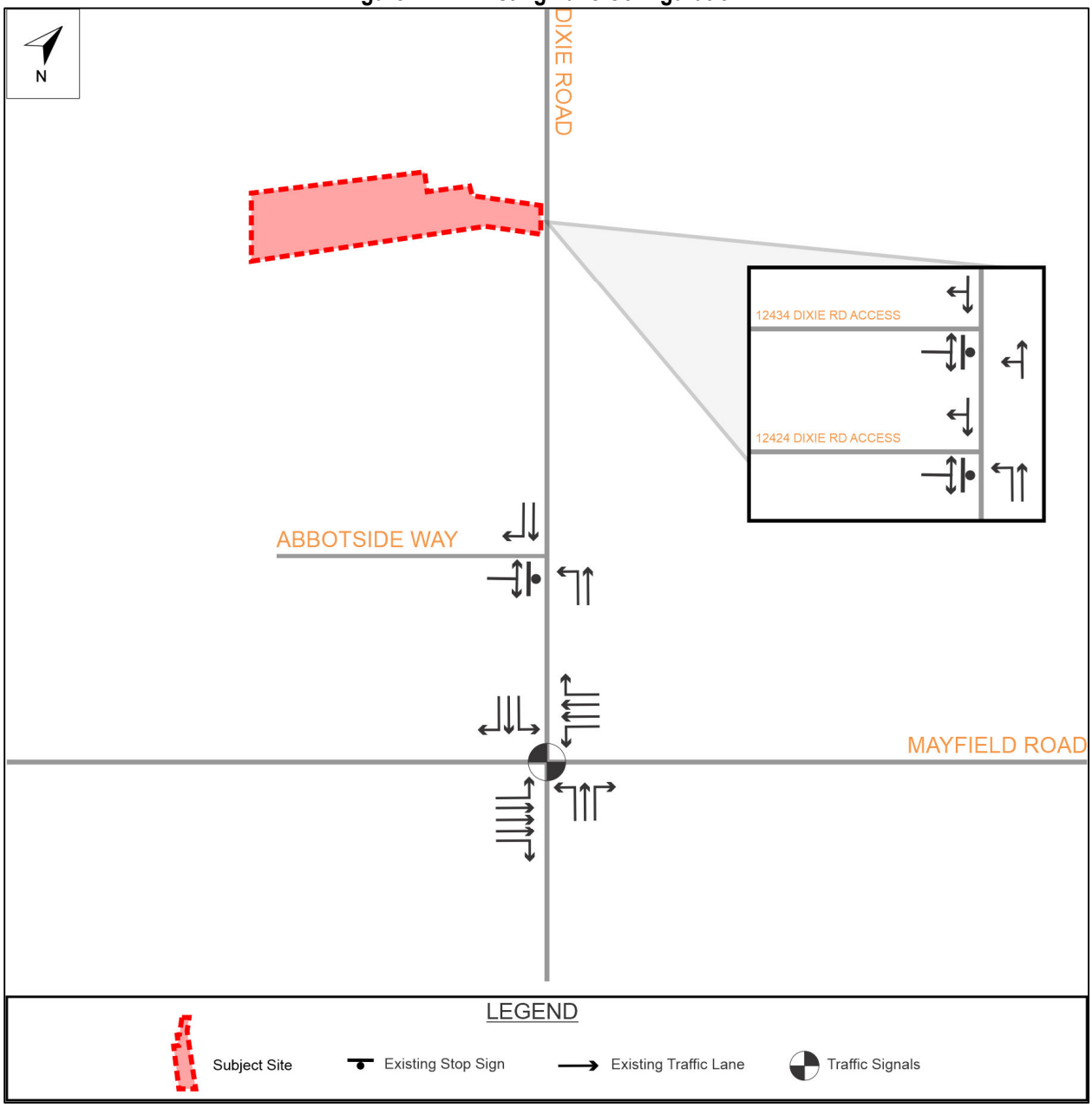
The proposed transport truck & trailer parking facility is located to the northwest corner of the Mayfield Road and Dixie Road intersection, in the Town of Caledon. The existing road network is described as follows:

Dixie Road / Regional Road 4: is a north-south regional road under the jurisdiction of Peel Region within the Town of Caledon and is classified as a Major Arterial Road. Dixie Road near the study area has an existing two-lane cross section (one lane per direction) and a posted speed limit of 70 km/h.

Mayfield Road / Regional Road 14: is an east-west regional road under the jurisdiction of Peel Region within the Town of Caledon and is classified as a Major Arterial Road. Mayfield Road near the study area has an existing six-lane cross section (three lanes per direction) to the west of Dixie Road and an existing five-lane cross section (three lanes in the northbound direction and two lanes in the southbound direction) to the east of Dixie Road and a posted speed limit of 80 km/h.

Figure 2-1 depicts the lane configuration of the existing road network.

Figure 2-1 – Existing Lane Configuration



2.2. Existing Active Transportation Infrastructure

Sidewalks

Sidewalk facilities within the area surrounding the subject site are limited. Sidewalk availability is described as follows:

- Abbotside Way – approximately 1.5m on both sides.
- Mayfield Road – approximately 1.5m on the south side.

Figure 2-2 depicts the existing sidewalk provisions.

Figure 2-2 – Sidewalk and Cycling Network Availability



Cycling

There are limited cycling facilities available within proximity of the subject site as shown in **Figure 2-2**. The cycleway exists approximately 1.3km to the south of the subject site and travels generally in a east west direction.

2.3. Existing Transit Network

Based on the study prepared by the Ministry of Transportation of Ontario (MTO) entitled: 'Transit Supportive Guidelines', dated January 2012, transit users are generally willing to walk 400 meters to a local stop or 800 meters to a transit station. The subject site is situated in a transit supportive neighborhood, with one (1) bus stops located 600m to the south of the subject site on Dixie Road. The route services in the immediate area are described below:

- **18 Dixie Road** – The 18 Dixie Road bus route operates between Meyerside Drive / Dixie Road and Dixie Road south of Mayfield Road, generally in a north-south direction. The 18 Dixie Road extended limited-service bus operates during weekdays at regular hours and departs approximately every 15 minutes. The nearest transit stop is located approximately an eight (8)-minute walk (approximately 600m) south of the subject site on Dixie Road / UPS Distribution Center. The 18 Dixie Road regular bus service operates all

day, every day and departs every 15 minutes. The nearest stop is located approximately a 19-minute walk (approximately 1.4km) south of the subject site on Dixie Road and Mayfield Road intersection.

- **300 Heart Lake Employment Shuttle** – The 300 Heart Lake Employment Shuttle route operates between Trinity Common Terminal and Heart Lake Road south of Ecopark Close, generally in a north-south direction. The 300 Heart Lake Employment Shuttle operates all day, every day and departs approximately every 15 minutes. The nearest transit stop is located approximately an 18-minute walk (approximately 1.4km) south of the subject site on Dixie Road at the intersection of Dixie Road and the Mayfield Road intersection.

The existing transit facilities within proximity of the subject site are illustrated in **Figure 2-3**.

Figure 2-3 – Transit Network Availability



2.4. Existing Traffic Volumes

Weekday morning and afternoon peak period turning movement counts (TMC) were undertaken by Spectrum Traffic Inc. on behalf of Nextrans for all study area intersections. As previously noted, the subject lands currently operate as a transport truck and trailer parking facility. Accordingly, turning movement count (TMC) data were collected at the subject site access. It should be noted that the subject driveway shares a common curb cut with a driveway serving the adjacent property; however, the two driveways operate independently and are separated by a raised landscaped

median. As such, TMC data were collected as a single intersection but modelled in Synchro as two separate site accesses.

The signal timing plan for the signalized intersection of Dixie Road and Mayfield Road was obtained from Peel Region.

Existing TMC data and signal timing plans are enclosed in **Appendix C**. A summary of traffic data collection is detailed in **Table 2.1**.

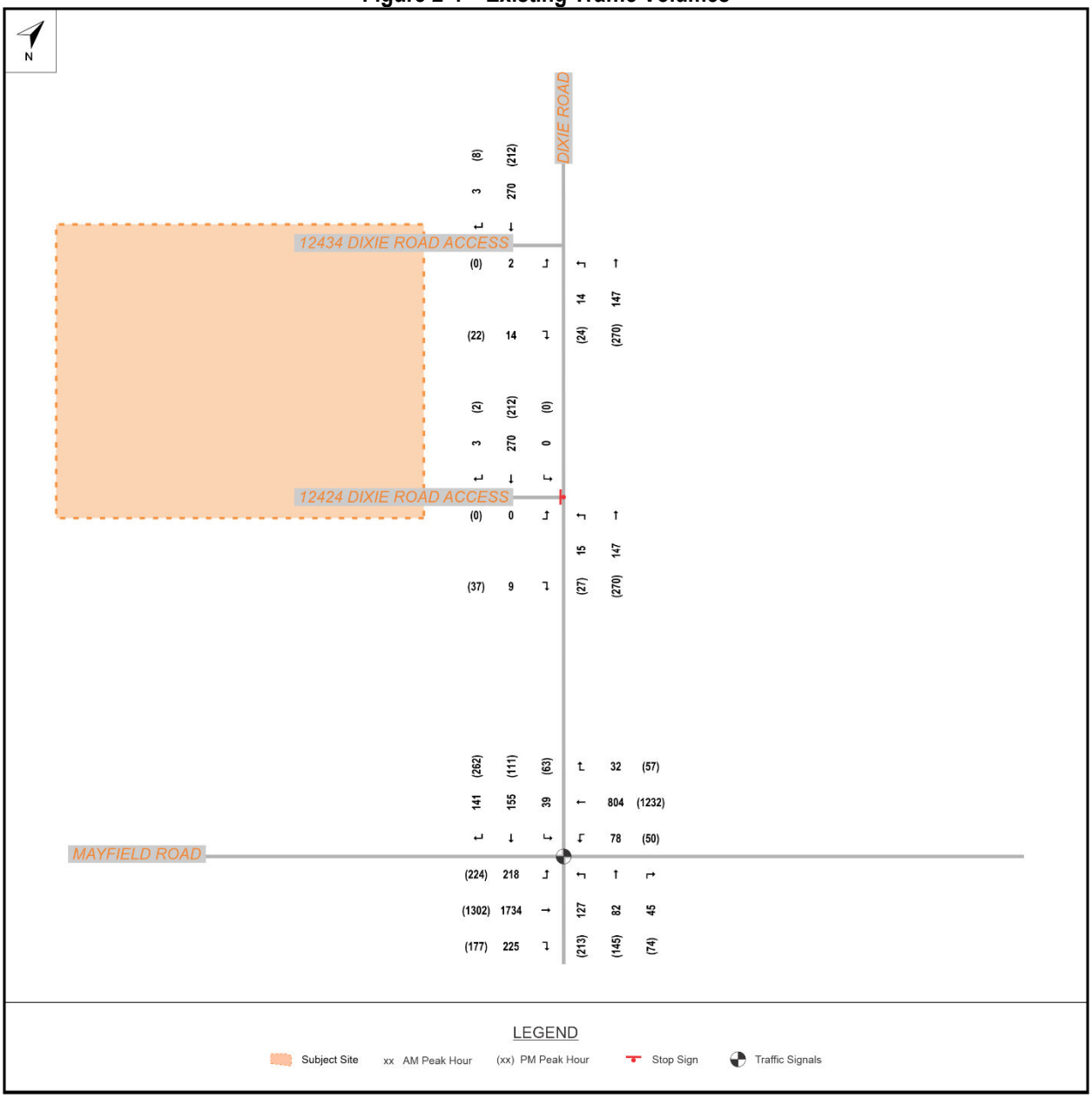
Table 2.1: Traffic Data Collection Summary

Intersection	Survey Date
Turning Movement Count Data	
12434 Dixie Road & 12424 Dixie Road & Dixie Road	May 20, 2026
Mayfield Road & Dixie Road	May 20, 2026
Signal Timing Plans	
Mayfield Road & Dixie Road	May 27, 2026

2.5. Existing Traffic Assessment

The existing traffic volumes are illustrated in **Figure 2-4** and were analyzed using Synchro 10 software. The methodology of the software follows the procedures described and outlined in the highway capacity manual, HCM 2000, published by the Transportation Research Board.

Figure 2-4 – Existing Traffic Volumes



Peak hour factors (PHFs) were applied to each study area intersection for the weekday AM, weekday PM and Saturday peak hours. The detailed Synchro output is provided in **Appendix D**. The results of the capacity analysis are summarized in **Tables 2.5**.

Table 2.2: Existing Traffic Assessments

Intersection	Movement	Weekday AM Peak Hour					Weekday PM Peak Hour				
		v/c	Delay (s)	LOS	Queue		v/c	Delay (s)	LOS	Queue	
					50th	95th				50th	95th
Signalized Intersections											
Dixie Road & Mayfield Road	**Overall**	**0.62**	**31.8**	**C**	-	-	**0.72**	**33.0**	**C**	-	-
	EBL	0.78	31.4	C	28.3	50.9	0.89	62.4	E	38.2	79.6
	EBT	0.86	36.0	D	142.1	163.9	0.64	28.3	C	91.0	107.1
	EBR	0.19	21.8	C	5.0	20.5	0.12	20.8	C	0.0	12.9
	WBL	0.68	38.9	D	9.1	22.7	0.30	24.1	C	5.6	11.7
	WBT	0.50	29.7	C	57.0	70.0	0.78	38.8	D	103.2	121.5
	WBR	0.29	27.5	C	21.3	37.1	0.45	31.2	C	38.6	61.6
	NBL	0.14	24.7	C	12.9	23.8	0.21	26.0	C	23.7	38.9
	NBT	0.04	23.4	C	0.0	1.2	0.05	24.0	C	0.0	7.5
	NBR	0.10	24.5	C	6.1	14.0	0.15	25.5	C	10.0	20.2
	SBL	0.27	26.6	C	25.7	42.1	0.16	25.3	C	17.8	30.7
	SBT	0.11	24.5	C	0.0	12.7	0.20	26.1	C	0.0	16.8
Unsignalized Intersections											
Dixie Road & 12434 Dixie Rd Access	EBLR	0.03	11.7	B	-	0.7	0.03	9.6	A	-	0.7
	NBL	0.01	0.8	A	-	0.3	0.02	0.9	A	-	0.6
Dixie Road & 12424 Dixie Road	EBLR	0.01	10.9	B	-	0.3	0.05	9.7	A	-	1.2
	NBL	0.01	8.3	A	-	0.3	0.02	7.7	A	-	0.5

Based on the capacity analysis of existing traffic conditions, all study area intersections are currently operating with residual capacity, acceptable levels of service and manageable delay and queue lengths. The subject driveway also operates with acceptable levels of service, residual capacity and with negligible delay and queue lengths.

3.0 FUTURE BACKGROUND CONDITIONS

An assumed build-out year of 2028 was adopted, with a five-year horizon (2033) selected for the assessment of the interim condition and a ten-year horizon (2038) selected for the assessment of the ultimate condition.

3.1. Planned Transportation Infrastructure Improvements

The Region of Peel's Project 14-1240 – Dixie Area Water and Road Improvements was reviewed to identify planned transportation infrastructure improvements within the study area. The project includes roadway widening works along Dixie Road, consisting of widening from two to four lanes between north of Mayfield Road and Countryside Drive, and from four to six lanes between Countryside Drive and Queen Street. Additional improvements include the development of multi-use trails, landscaping and streetscaping enhancements, and upgrades to traffic signals and roadway lighting. The project also includes major watermain and reservoir infrastructure upgrades intended to support future growth and improve long-term water system capacity and reliability within the area.

In addition, planned future improvements along Mayfield Road were reviewed based on the Region of Peel's "Working with You to Deliver Mayfield Road" program. The project includes several roadway widening initiatives along the Mayfield Road corridor to accommodate future growth and improve overall traffic operations. Within the broader corridor, planned works include widening sections of Mayfield Road from two to four, five, and six lanes, together with associated utility relocations, land acquisition, and construction activities scheduled between 2026 and 2031. Notably, the widening of Mayfield Road from Hurontario Street to Chinguacousy Road from two to six lanes

was completed in 2026, while additional widening projects east of Dixie Road, including the segments from Dixie Road to Bramalea Road and Airport Road to Highway 50, are scheduled for construction between 2026 and 2030.

3.1.1. Dixie Road Widening

Based on the Region of Peel's Project 14-1240 – Dixie Area Water and Road Improvements, several transportation infrastructure improvements are planned along the Dixie Road corridor to accommodate future growth and improve overall traffic operations within the area. The planned roadway improvements include the following:

- Widening Dixie Road from two lanes to four lanes between north of Mayfield Road and Countryside Drive.
- Widening Dixie Road from four lanes to six lanes between Countryside Drive and Queen Street.
- Construction of new multi-use trails and active transportation facilities along the Dixie Road corridor.
- Upgrades to intersections, traffic signals, roadway lighting, and related municipal infrastructure.
- Streetscaping and landscaping enhancements are associated with the Dixie Road corridor improvements.
- Coordination of roadway works with major underground infrastructure upgrades, including new watermain installations and reservoir-related servicing improvements.

These planned improvements are intended to improve traffic capacity, enhance connectivity for all modes of transportation, and support future development within the surrounding area.

3.1.2. Mayfield Road Widening

Based on the Region of Peel's Mayfield Road Improvement Program, several transportation infrastructure improvements are planned along the Mayfield Road corridor to accommodate future growth and improve overall traffic operations within the area. The planned roadway improvements include the following:

- Widening Mayfield Road from two lanes to six lanes between Hurontario Street and Chinguacousy Road. This construction phase is currently ongoing.
- Widening Mayfield Road from five lanes to six lanes between Dixie Road and Bramalea Road.
- Widening Mayfield Road from two lanes to five lanes between Chinguacousy Road and Mississauga Road.
- Widening Mayfield Road from two lanes to four lanes between Mississauga Road and Winston Churchill Boulevard.
- Widening Mayfield Road from two lanes to five lanes between Airport Road and the Gore Road.
- Widening Mayfield Road from two lanes to five lanes between the Gore Road and Coleraine Drive.
- Widening Mayfield Road from two lanes to four lanes between Coleraine Drive and Highway 50.
- Widening Mayfield Road from four lanes to six lanes between Heart Lake Road and Hurontario Street.
- Completion of associated utility relocations, land acquisition, and municipal servicing works required to support the roadway widening program.
- Coordination of phased construction activities scheduled between 2026 and 2031 along various segments of the Mayfield Road corridor.

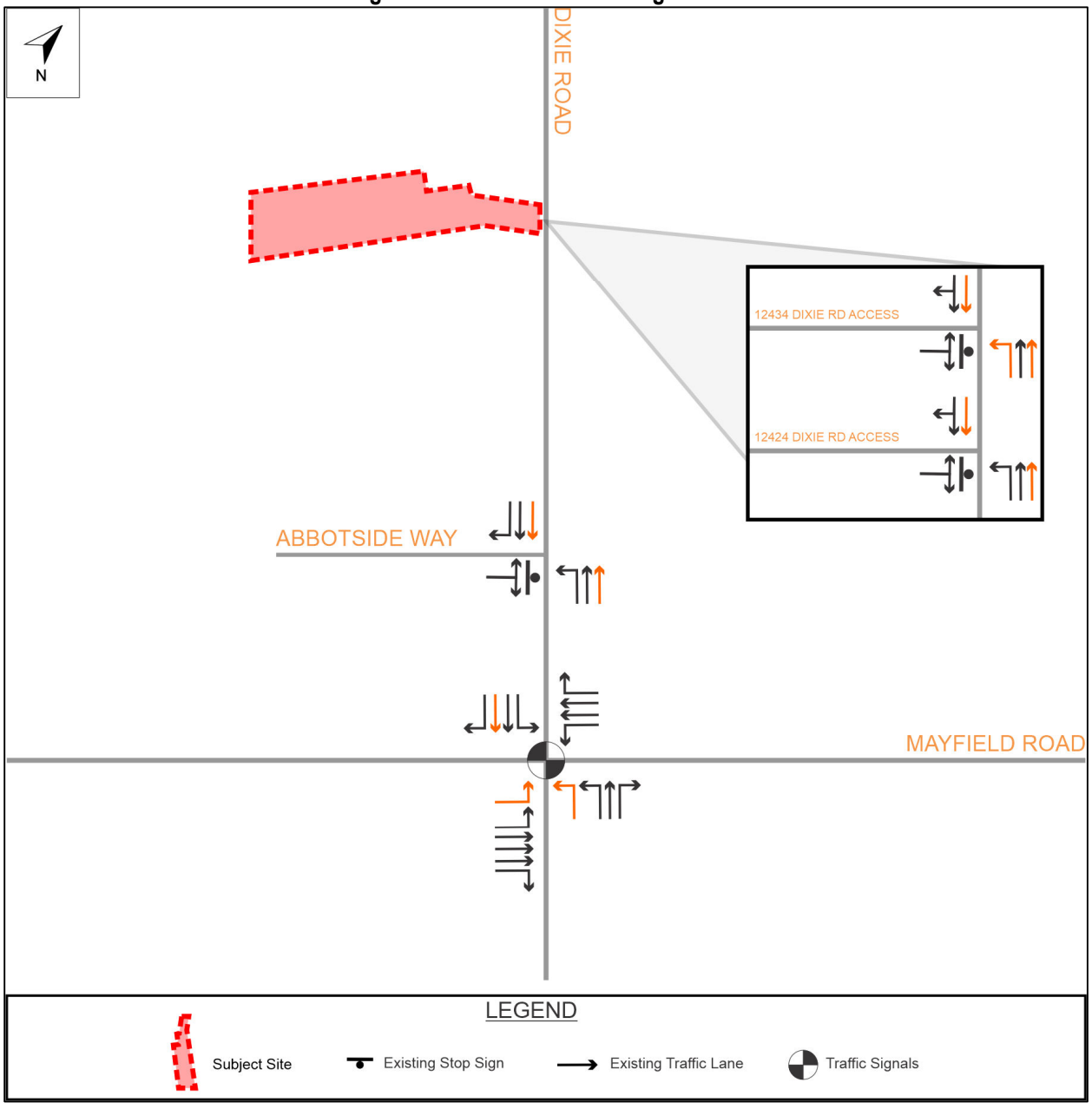
These planned improvements are intended to improve traffic capacity, enhance regional connectivity, support active and efficient transportation movement, and accommodate future development and growth within the surrounding area.

Additionally, our review of the *Dixie Road Class EA Study Traffic Report (2011)* prepared by AECOM Canada Ltd., indicated that dual-entry left-turn lanes are proposed at the intersection of Dixie Road and Mayfield Road under 2031

conditions for the west and south approaches. An excerpt of the 2031 Intersection Lane Configurations is enclosed in **Appendix E**.

The future road conditions were modeled accordingly in the ultimate future Synchro network, and the future road network is illustrated in **Figure 3-1**.

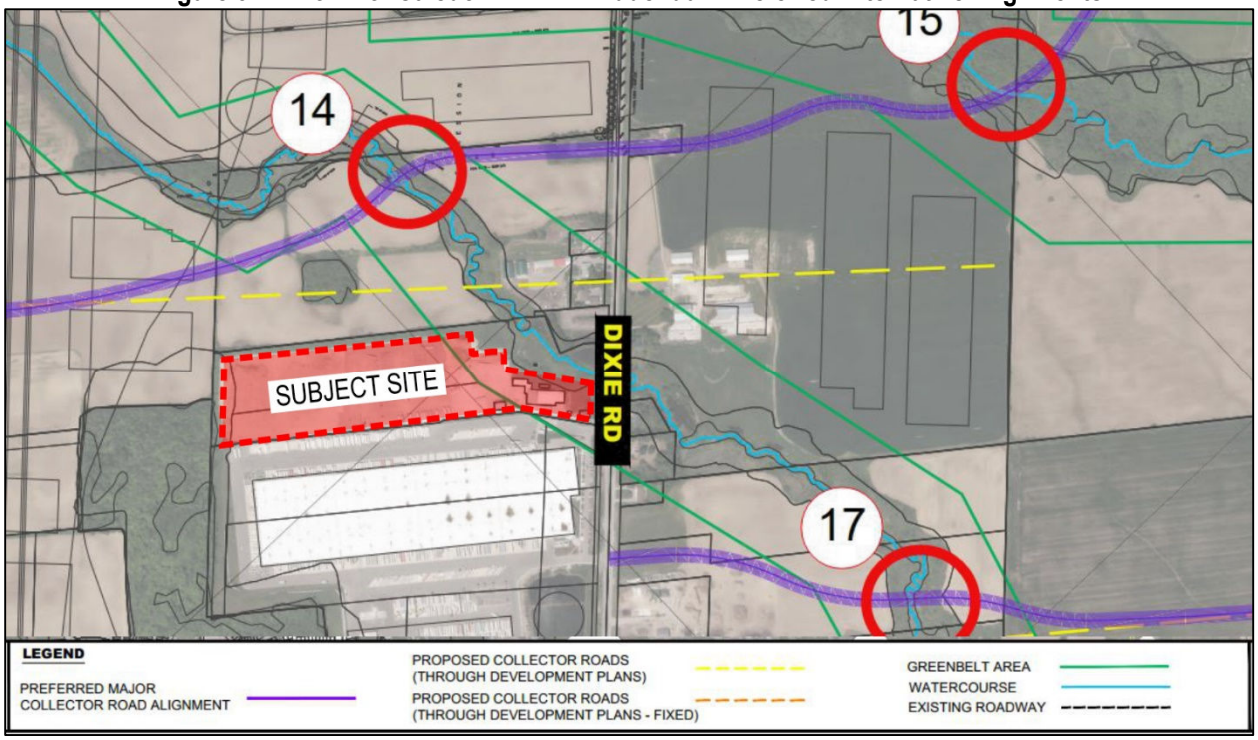
Figure 3-1 – Future Lane Configuration



3.1.3. Ultimate 2051 MMTMP Road Network

As part of the Terms of Reference review, the Town of Caledon requested that the ultimate traffic operations assessment consider the proposed Multi-Modal Transportation Master Plan (MMTMP) Addendum road network, including the proposed east-west collector roads connecting to Dixie Road. An excerpt from the Town's MMTMP Addendum road network is illustrated below in **Figure 3-2**.

Figure 3-2 – Town of Caledon MMTMP Addendum Preferred Alternative Alignments



The Town subsequently provided 2051 EMME model turning movement forecasts associated with the ultimate MMTMP road network. The information provided was reviewed; however, it was determined that a meaningful operational assessment of the proposed 2051 road network could not be completed based on the information available. While turning movement forecasts were provided, information regarding the anticipated implementation timing of the proposed roadway network, future intersection traffic control, lane configurations, signal timing plans, and other operational assumptions necessary to complete a detailed capacity assessment was not available. As such, any operational assessment of the 2051 MMTMP road network would require significant assumptions regarding future roadway operations and would not provide a reliable basis for evaluating the proposed development.

As such, this Transportation Impact Study assesses the proposed development based on the existing and planned transportation network associated with the 2033 interim and 2038 ultimate planning horizons.

3.2. Future Corridor Growth

Corridor growth was forecasted by applying an annual 2% growth rate to the existing traffic volumes. The selected growth rate is consistent with recent Transportation Impact Studies prepared for background developments within the area of the subject site.

It is to be noted that the Town of Caledon provided 2051 EMME model forecasts associated with the Multi-Modal Transportation Master Plan (MMTMP) Addendum; however, the corresponding base-year EMME model was not provided and as such, future corridor growth could not be reliably derived for the interim (2033) and ultimate (2038) assessment horizons. As such, the 2% annual growth rate was adopted instead.

3.3. Background Developments

The following development applications were included in our assessment of background traffic:

- 12489 Dixie Road – SPA 2024-0016
- 12861 Dixie Road – SPA 2025-0017
- 12862 & 12668 Dixie Road – SPA 2025-0004
- 0 & 12035 Dixie Road – RZ 2021-0007

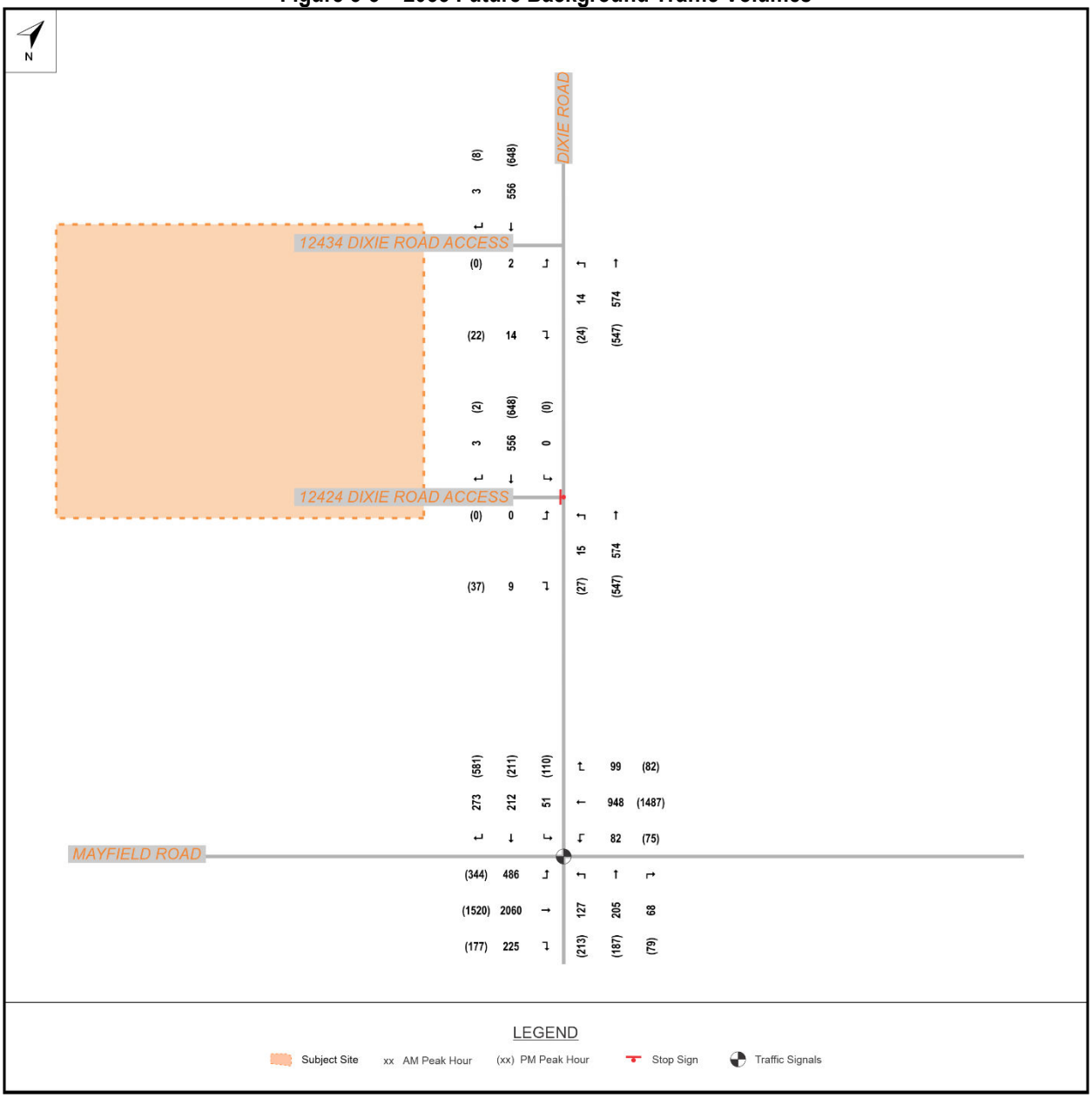
Excerpts of the site traffic forecasts from the traffic studies prepared for each of the above-noted developments are enclosed in **Appendix F**.

3.4. Future Background Traffic Assessment

3.4.1. 2033 Horizon Year

To establish a baseline future background condition for the 2033 horizon year, the forecasted 2033 future background traffic volumes (i.e., existing traffic volumes + corridor growth + background development site traffic volumes) were assessed under two scenarios: an interim condition that maintained the existing road network and an ultimate road network condition that included the future road network improvements. The estimated 2033 future background traffic volumes are illustrated in **Figure 3-3**.

Figure 3-3 – 2033 Future Background Traffic Volumes



INTERIM ROAD NETWORK

The methodology used for the 2033 future background traffic analysis under the interim road network follows the procedures described and outlined in HCM 2000, published by the Transportation Research Board. The detailed calculations are enclosed in **Appendix G** and **Table 3.1** summarizes the level of service at the study area intersections under future background traffic conditions.

Table 3.1: 2033 Future Background Traffic Assessments (Interim Road Network)

Intersection	Movement	Weekday AM Peak Hour					Weekday PM Peak Hour				
		v/c	Delay (s)	LOS	Queue 50th	Queue 95th	v/c	Delay (s)	LOS	Queue 50th	Queue 95th
Signalized Intersections											
Dixie Road & Mayfield Road	**Overall**	**1.35**	**96.4**	**F**	-	-	**1.12**	**50.8**	**D**	-	-
	EBL	2.07	514.6	F	160.9	226.6	1.30	197.5	F	92.0	150.2
	EBT	1.06	71.8	E	203.2	232.1	0.74	30.8	C	113.6	132.0
	EBR	0.22	23.1	C	9.5	26.4	0.12	20.7	C	0.4	13.4
	WBL	0.62	36.3	D	9.5	24.6	0.56	29.9	C	8.5	16.2
	WBT	0.64	32.8	C	75.6	91.1	0.96	54.3	D	137.1	171.4
	WBR	0.33	28.3	C	21.7	38.2	0.54	35.0	D	40.1	65.5
	NBL	0.34	27.6	C	35.3	55.0	0.27	27.5	C	31.3	49.4
	NBT	0.06	23.5	C	0.0	6.2	0.06	24.5	C	0.0	8.4
	NBR	0.16	25.3	C	8.1	17.5	0.29	28.7	C	18.6	33.6
	SBL	0.36	28.1	C	36.8	57.5	0.31	28.1	C	35.8	55.1
	SBT	0.31	27.5	C	11.7	34.1	0.82	47.8	D	74.6	146.7
Unsignalized Intersections											
Dixie Road & 12434 Dixie Rd Access	EBLR	0.06	17.4	C	-	1.3	0.05	13.6	B	-	1.3
	NBL	0.02	0.4	A	-	0.4	0.04	1.0	A	-	0.9
Dixie Road & 12424 Dixie Road	EBLR	0.02	14.0	B	-	0.5	0.09	13.9	B	-	2.3
	NBL	0.02	9.3	A	-	0.4	0.03	9.1	A	-	0.8

Based on the results of the capacity analysis under baseline 2033 future background traffic conditions, the study area intersection of Mayfield Road and Dixie Road is projected to operate over capacity, with overall intersection v/c exceeding 1.00 and with failing levels of service during both AM and PM peak hour. Specifically, the eastbound left movement is expected to exceed capacity during both AM and PM peak hour and operate with a failing level of service and with extensive delay and queue lengths. The eastbound through movement at this intersection is also expected to operate overcapacity, with a failing level of service and with extensive delay and queue lengths during AM peak hour.

The subject driveway is projected to operate with residual capacity, with acceptable levels of service and with minimal delay and queueing under baseline 2033 future background traffic conditions.

Given that the forecast operational deficiencies are largely attributable to the significant eastbound left-turn demand assigned to the future background traffic network, an additional sensitivity assessment was undertaken using the planned ultimate roadway configuration identified in recent transportation studies for the corridor. The objective of this assessment was to determine whether the projected deficiencies were primarily a function of the assumed interim roadway geometry or the forecast background traffic demand. The results of this assessment are presented as follows.

ULTIMATE ROAD NETWORK

The methodology used for the 2033 Future Background traffic analysis under the ultimate roadway configuration follows the procedures outlined in the Highway Capacity Manual (HCM 2000), published by the Transportation Research Board. In addition to the planned ultimate roadway configuration, the traffic signal cycle length at the intersection of Mayfield Road and Dixie Road was increased to 135 seconds during both the weekday AM and PM peak hours to maintain consistency with the coordinated traffic signal system along the Mayfield Road corridor. This

signal timing assumption is consistent with the methodology adopted in recent transportation studies completed for neighbouring developments within the study area.

The detailed capacity analysis calculations are provided in **Appendix H**, and **Table 3.2** summarizes the resulting levels of service at the study area intersections under the 2033 Future Background traffic conditions.

Table 3.2: 2033 Future Background Traffic Assessments (Ultimate Road Network)

Intersection	Movement	Weekday AM Peak Hour					Weekday PM Peak Hour				
		v/c	Delay (s)	LOS	Queue		v/c	Delay (s)	LOS	Queue	
					50th	95th				50th	95th
Signalized Intersections											
Dixie Road & Mayfield Road	**Overall**	**0.65**	**34.5**	**C**	-	-	**0.89**	**39.8**	**D**	-	-
	EBL	0.83	29.2	C	33.2	52.6	0.85	53.0	D	32.7	54.2
	EBT	0.91	38.5	D	188.9	212.2	0.74	33.9	C	126.9	146.5
	EBR	0.20	20.3	C	9.3	24.6	0.14	23.1	C	3.2	17.3
	WBL	0.66	38.9	D	9.3	32.9	0.54	29.0	C	9.6	17.9
	WBT	0.61	33.5	C	82.2	105.4	0.87	44.5	D	144.7	165.6
	WBR	0.18	32.4	C	12.8	20.9	0.25	28.8	C	20.1	29.9
	NBL	0.21	32.6	C	21.4	31.4	0.14	27.0	C	17.2	25.6
	NBT	0.06	30.7	C	0.0	9.1	0.06	26.1	C	0.0	10.2
	NBR	0.18	33.1	C	10.0	20.8	0.28	30.1	C	20.4	35.7
	SBL	0.22	32.8	C	22.2	32.4	0.16	27.3	C	19.5	28.6
	SBT	0.22	33.4	C	0.0	20.1	0.88	57.8	E	105.6	181.4
Unsignalized Intersections											
Dixie Road & 12434 Dixie Rd Access	EBLR	0.04	13.2	B	-	0.9	0.04	10.8	B	-	0.9
	NBL	0.02	0.8	A	-	0.4	0.04	1.8	A	-	1.0
Dixie Road & 12424 Dixie Road	EBLR	0.02	11.7	B	-	0.4	0.06	10.9	B	-	1.5
	NBL	0.02	9.6	A	-	0.5	0.03	9.1	A	-	0.8

Based on the results of the operational analysis of the 2033 future background traffic conditions under the ultimate road network, the study area intersections and the subject driveway are projected to operate with residual capacity, with acceptable levels of service and with manageable delay and queue lengths during both AM and PM peak hour.

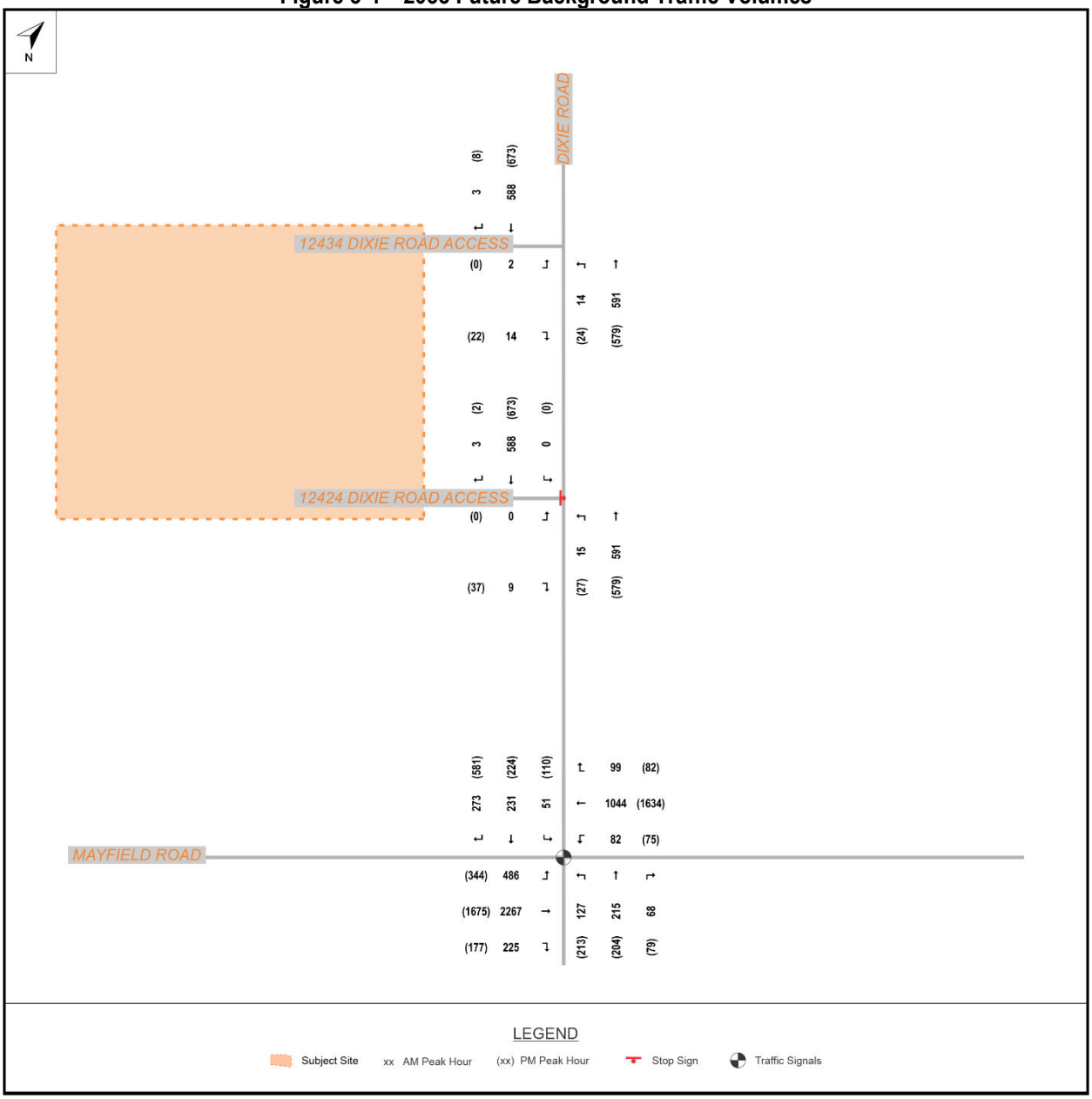
Compared to the baseline future background scenario, the planned roadway improvements substantially improve the operational performance of the Dixie Road / Mayfield Road intersection by providing additional capacity for the forecast eastbound and northbound left-turn movements. Consequently, the operational deficiencies identified under the baseline future background scenario are effectively mitigated under the ultimate roadway configuration, demonstrating that the deficiencies were primarily attributable to the interim roadway geometry rather than the forecast background traffic demand.

Based on the improved operational performance demonstrated under the planned ultimate roadway configuration, the assessment proceeds using this roadway network for the evaluation of the 2038 Future Total (Ultimate) conditions.

3.4.2. 2038 Horizon Year

The estimated 2038 future background traffic volumes are illustrated in **Figure 3-4**.

Figure 3-4 – 2038 Future Background Traffic Volumes



The detailed calculations are enclosed in **Appendix I** and **Table 3.3** summarizes the level of service at the study area intersections under 2038 future background traffic conditions.

Table 3.3: 2038 Future Background Traffic Assessments (Ultimate Road Network)

Intersection	Movement	Weekday AM Peak Hour					Weekday PM Peak Hour				
		v/c	Delay (s)	LOS	Queue		v/c	Delay (s)	LOS	Queue	
					50th	95th				50th	95th
Signalized Intersections											
Dixie Road & Mayfield Road	**Overall**	**0.70**	**40.8**	**D**	-	-	**0.91**	**43.4**	**D**	-	-
	EBL	0.83	37.5	D	40.9	59.7	0.85	53.8	D	32.7	54.2
	EBT	0.98	48.6	D	221.5	262.9	0.82	36.8	D	147.1	168.6
	EBR	0.21	19.9	B	11.0	26.5	0.15	23.3	C	5.6	20.1
	WBL	0.73	50.4	D	9.3	36.6	0.58	32.6	C	9.6	21.2
	WBT	0.68	36.7	D	95.9	120.1	0.95	52.9	D	166.0	200.5
	WBR	0.19	32.6	C	12.8	20.9	0.26	28.9	C	20.1	30.0
	NBL	0.22	32.8	C	22.5	32.7	0.15	27.2	C	18.8	27.8
	NBT	0.06	30.8	C	0.0	9.1	0.06	26.1	C	0.0	10.2
	NBR	0.18	33.2	C	10.0	20.9	0.28	30.2	C	20.4	35.8
	SBL	0.24	33.2	C	24.4	35.3	0.17	27.4	C	20.9	30.3
	SBT	0.22	33.5	C	0.0	20.1	0.89	58.1	E	106.2	182.1
Unsignalized Intersections											
Dixie Road & 12434 Dixie Rd Access	EBLR	0.04	13.5	B	-	0.9	0.04	10.9	B	-	0.9
	NBL	0.02	0.8	A	-	0.4	0.04	1.8	A	-	1.1
Dixie Road & 12424 Dixie Road	EBLR	0.02	11.9	B	-	0.4	0.06	11.0	B	-	1.5
	NBL	0.02	9.7	A	-	0.5	0.03	9.2	A	-	0.8

Based on the results of the operational analysis of the 2038 future background traffic conditions under the ultimate road network, the study area intersections and the subject driveway are projected to operate with residual capacity, with acceptable levels of service and with manageable delay and queue lengths during both AM and PM peak hour.

4.0 SITE TRAFFIC

4.1. Trip Generation

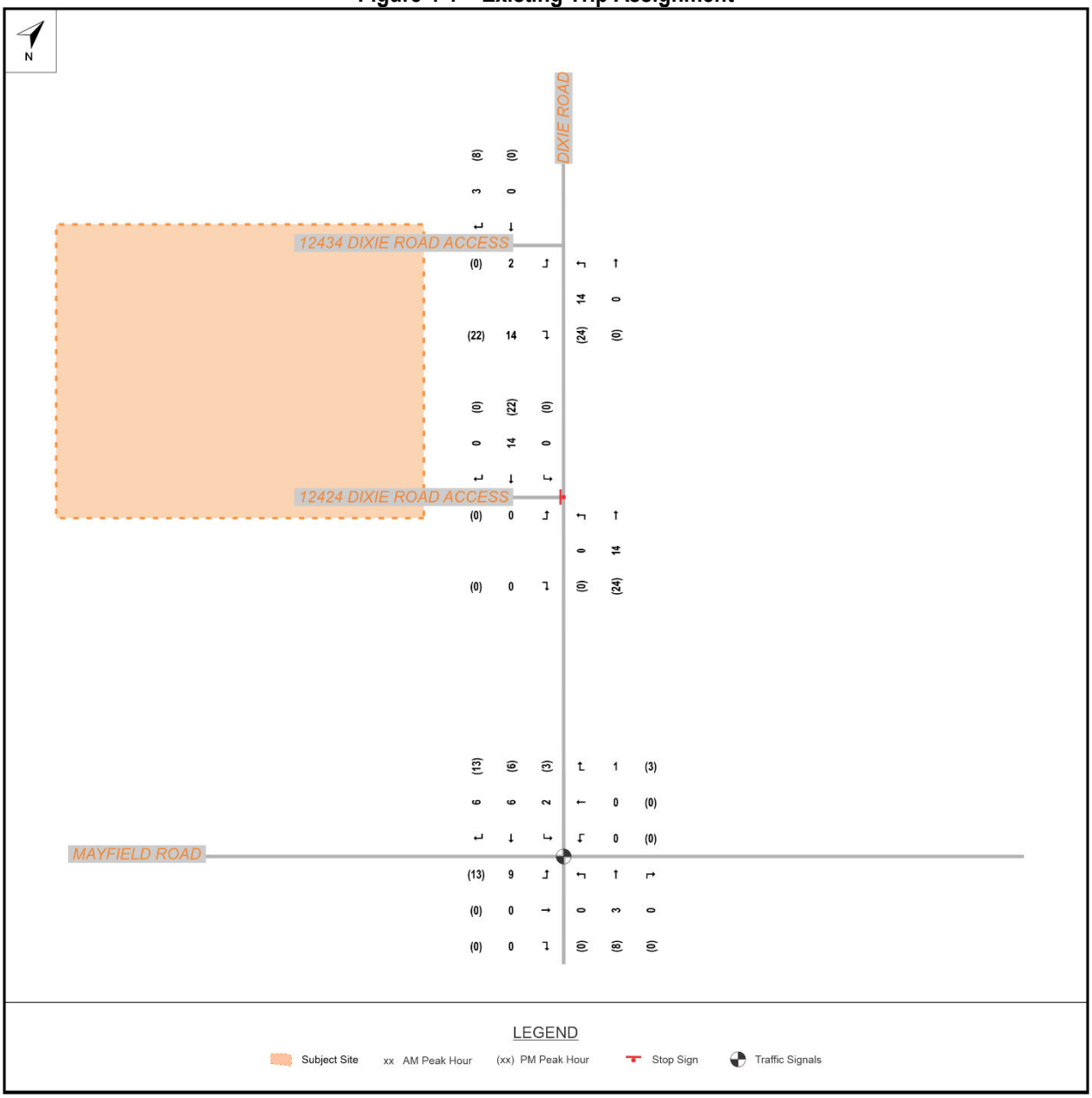
As previously noted, the subject site currently operates as a truck and trailer parking facility. TMC data collection illustrates the existing trip assignment throughout the study area. The existing trip assignment is detailed in tabular format in **Table 4.1** and is illustrated in **Figure 4-1**.

Table 4.1: Existing Site Trips

Source	Morning Peak Hour			Afternoon Peak Hour		
	In	Out	Total	In	Out	Total
Observed Trips	17	16	33	32	22	54

Based on existing TMC data collection, the subject site generates a total of 33 two-way trips (17 inbound and 16 outbound) during AM peak hour and 54 two-way trips (32 inbound and 22 outbound) during PM peak hour.

Figure 4-1 – Existing Trip Assignment



Interim Site Condition

As previously discussed, the subject lands currently operate as a temporary truck and trailer parking facility. Under the interim condition, the existing site operation is proposed to remain unchanged and no modifications to the existing truck and trailer parking operation are proposed. As such, the existing observed site-generated traffic, as documented through the turning movement count program, has been carried forward for the assessment of the interim development condition. No additional site-generated traffic is anticipated during the interim phase.

Ultimate Site Condition

The ultimate development proposes the construction of an 11,280 m² transportation depot incorporating a cross-dock facility, together with an associated 1,433 m² six-bay truck wash facility, while retaining a portion of the existing truck and trailer parking operation.

The ITE Trip Generation Manual (12th Edition) was reviewed to identify the most representative land use for the proposed transportation depot. While no ITE land use directly represents a cross-dock facility with associated truck parking, several freight-related land uses were considered. LUC 030 – Intermodal Truck Terminal was not considered representative due to its focus on intermodal freight transfer and limited database, while the High-Cube Warehouse land uses (LUC 154–157) generally represent significantly larger facilities than the proposed development. Accordingly, LUC 150 – Warehouse was selected as the most appropriate surrogate land use, as its definition includes distribution centres where goods are transferred between carriers and is supported by a more representative trip generation database.

As the proposal represents the redevelopment of an existing truck and trailer parking facility rather than development of a vacant site, a net trip generation approach was adopted. Approximately 70% of the existing truck and trailer parking area will be redeveloped to accommodate the transportation depot and associated circulation, while the remaining 30% will continue to operate as truck and trailer parking. As such, 70% of the existing observed site-generated traffic was assumed to be displaced, with the forecast trips associated with the proposed transportation depot added to the retained existing traffic to determine the net external trips under ultimate conditions.

The proposed truck wash facility is intended to serve trucks operating from the subject site and is therefore expected to function as an ancillary use. As such, truck wash trips are anticipated to be internally captured and are not expected to generate additional external traffic.

The forecasted trip generation under ultimate site conditions is detailed in **Table 4.2** and excerpts from the ITE Trip Generation Manual are enclosed in **Appendix J**.

Table 4.2: Existing Site Trips

Source	Morning Peak Hour			Afternoon Peak Hour		
	In	Out	Total	In	Out	Total
Remaining Existing Trips	5	5	10	10	7	17
LUC150 (ITE)	20	6	26	9	24	33
Total	**25**	**11**	**36**	**19**	**31**	**50**

Based on the retained existing site traffic and the forecast site-generated traffic associated with the proposed cross-dock facility, the ultimate site condition is forecast to generate a total of 36 two-way trips (25 inbound and 11 outbound) during the weekday AM peak hour and 50 two-way trips (19 inbound and 31 outbound) during the weekday PM peak hour.

It is noteworthy that the forecast peak hour trip generation under the ultimate site condition is generally consistent with the existing site operation. This outcome is expected, as the proposed redevelopment replaces a significant portion of the existing truck and trailer parking facility while retaining a portion of the existing operation, resulting in only minor changes to the overall external traffic demand.

4.2. Trip Distribution

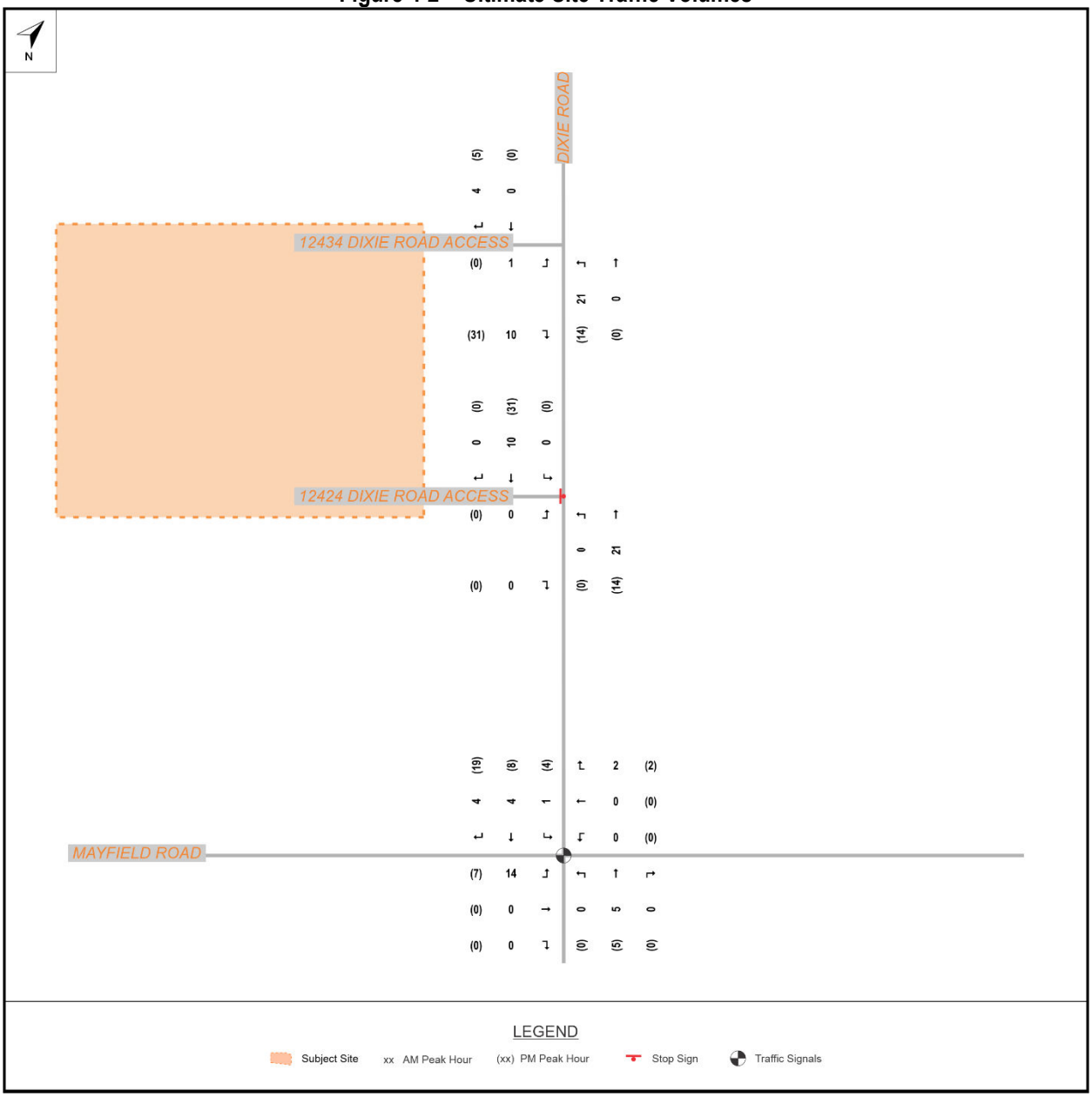
The trip distribution assumptions are based on the existing directional distribution of traffic entering and exiting the subject site, together with existing travel patterns within the study area road network and engineering judgement regarding the routes most likely to be used by site traffic.

Trip distribution is summarized in **Table 4.3** and trip assignment for all site generated traffic is illustrated in Figure 4-2.

Table 4.3 – Site Traffic Trip Distribution

Corridor	Direction	AM		PM	
		Inbound	Outbound	Inbound	Outbound
Dixie Road	North	18%	12%	25%	0%
	South	20%	40%	26%	26%
Mayfield Road	East	8%	11%	10%	14%
	West	54%	37%	39%	60%
Total		**100%**	100%	100%	100%

Figure 4-2 – Ultimate Site Traffic Volumes



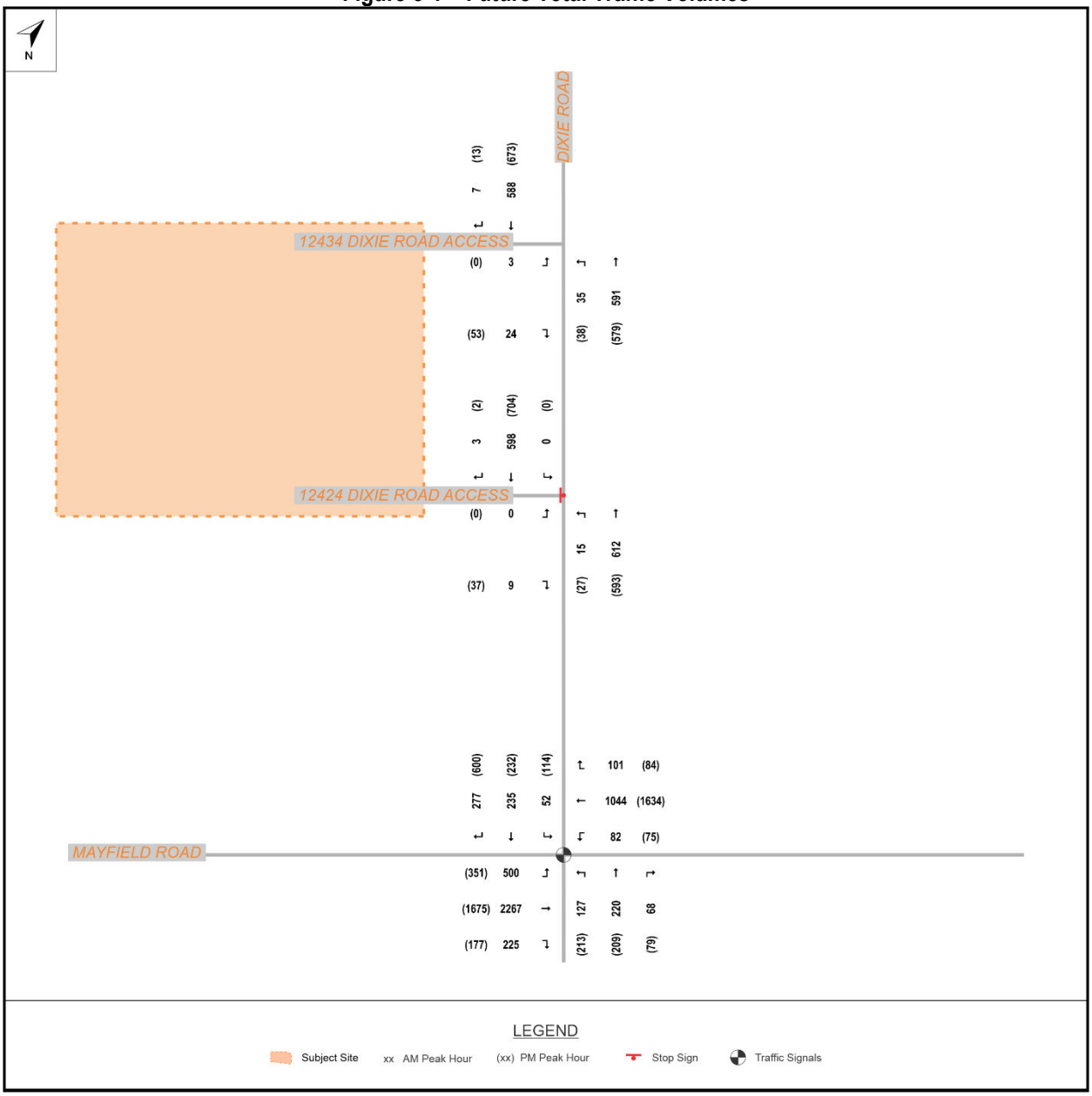
5.0 FUTURE TOTAL ANALYSIS

As discussed previously, the interim site condition maintains the existing truck and trailer parking operation and, accordingly, does not result in any changes to site-generated traffic. On this basis, a separate assessment of the 2033 Future Total (Interim) conditions was not undertaken, as the operational analysis would be identical to the 2033 Future Background scenario. Accordingly, the operational performance of the study area intersections and the subject driveway under the 2033 Future Total (Interim) condition is expected to remain unchanged from the 2033 Future Background scenario, with acceptable levels of service, residual capacity, and manageable delays and queue lengths.

The operational assessment therefore focuses on the 2038 Future Total (Ultimate) conditions, which incorporate the forecast site-generated traffic associated with the proposed transportation depot and truck wash facility. While the forecast changes in site-generated traffic are generally comparable to the existing site operation, the 2038 analysis has been completed to evaluate the operational performance of the study area under the ultimate development scenario.

The forecasted 2038 future total ultimate traffic volumes (2038 future background traffic volumes plus ultimate site generated traffic volumes) are illustrated in **Figure 5-1** and were analyzed using Synchro 10 software.

Figure 5-1 – Future Total Traffic Volumes



The detailed calculations are enclosed in **Appendix K** and are summarized in **Table 5.1**.

Table 5.1: 2038 Ultimate Future Total Traffic Assessments

Intersection	Movement	Weekday AM Peak Hour					Weekday PM Peak Hour				
		v/c	Delay (s)	LOS	Queue		v/c	Delay (s)	LOS	Queue	
					50th	95th				50th	95th
Signalized Intersections											
Dixie Road & Mayfield Road	**Overall**	**0.70**	**41.1**	**D**	-	-	**0.93**	**44.3**	**D**	-	-
	EBL	0.85	39.5	D	43.5	62.8	0.86	55.2	E	33.7	56.3
	EBT	0.98	48.6	D	221.5	262.9	0.82	36.7	D	147.1	168.6
	EBR	0.21	19.9	B	11.0	26.5	0.15	23.2	C	5.6	20.1
	WBL	0.73	50.5	D	9.3	#36.6	0.58	32.6	C	9.6	21.2
	WBT	0.69	37.3	D	97.1	120.3	0.96	53.3	D	166.1	200.8
	WBR	0.19	32.6	C	12.8	21.0	0.26	29.0	C	20.1	30.0
	NBL	0.22	32.9	C	23.0	33.5	0.16	27.3	C	19.2	28.2
	NBT	0.06	30.8	C	0.0	9.1	0.06	26.2	C	0.0	10.2
	NBR	0.18	33.3	C	10.2	20.9	0.29	30.5	C	21.2	36.8
	SBL	0.24	33.2	C	24.8	35.7	0.18	27.6	C	21.7	31.2
	SBT	0.22	33.6	C	0.0	20.4	0.92	63.8	E	114.0	192.8
Unsignalized Intersections											
Dixie Road & 12434 Dixie Rd Access	EBLR	0.06	13.5	B	-	1.6	0.09	11.3	B	-	2.2
	NBL	0.04	0.8	A	-	0.9	0.07	2.7	A	-	1.7
Dixie Road & 12424 Dixie Road	EBLR	0.02	11.9	B	-	0.4	0.06	11.2	B	-	1.6
	NBL	0.02	9.7	A	-	0.5	0.03	9.3	A	-	0.8

Based on the results of the capacity analysis of future total traffic volumes, the study area intersection and the site access are projected to operate with residual capacity, with acceptable levels of service and with manageable delay and queue lengths. Comparison of the Future Total and Future Background scenarios indicates that the additional traffic generated by the proposed development results in only minor changes to the operational performance of the surrounding road network.

On this basis, the site traffic generated by the proposed development is projected to have a negligible impact on the future traffic operations of the surrounding road network.

6.0 PARKING ASSESSMENT

6.1. Vehicle Parking Requirements

6.1.1. Interim Condition

The interim condition maintains the existing truck and trailer parking operation and does not introduce additional parking demand or modifications to the existing site operation. The interim site plan provides 115 vehicle parking spaces to accommodate employees and visitors associated with the existing operation. As the interim condition represents the continuation of the existing use, no changes to the existing buildings or site operations are proposed and a detailed parking rate assessment has not been undertaken. Based on the existing operation, the observed parking supply, and the absence of any changes to parking demand or site operations, the proposed parking supply is considered appropriate to accommodate the anticipated parking demand associated with the interim condition.

6.1.2. Ultimate Condition

The ultimate development proposes the construction of an 11,280 m² transportation depot incorporating a cross-dock facility and a 1,433 m² six-bay truck wash facility. Parking requirements for the ultimate development have been determined in accordance with Town of Caledon Zoning By-law 2006-50 and are summarized in **Table 6.1**.

Table 6.1: Vehicle Parking Requirements Zoning By-law 2006-50

Type	GFA	Parking Rate	Parking Required
Transportation Depot	11,280 m^2	0 – 7,000m^2: 1 space/90m^2 + 7,000m^2 – 20,000 m^2: 1 space/145m^2	**108 spaces**

Based on the existing zoning for the subject site, a total of 108 vehicle parking spaces is required under ultimate site conditions. The proposed site plan provides 108 vehicle parking spaces, thereby satisfying the minimum parking requirements of the Town's Zoning By-law.

6.1.3. Barrier Free Parking Requirements

Schedule "K" of the Town's Zoning By-law 2015-058 prescribes barrier free parking requirements. The barrier free parking requirements for the site are detailed in **Table 6.2**.

Table 6.2: Barrier Free Parking Requirements

Total No. of Parking Spaces Required	Parking Rate	Required Type A Spaces	Required Type B Spaces	Total Barrier Free Spaces Required
108 spaces	1 accessible space + 3%	2	3	5

In accordance with the Town's Zoning By-law requirements for barrier free parking, a total of five (5) barrier-free parking spaces (two (2) Type A spaces and three (3) Type B spaces) is required.

7.0 SITE PLAN REVIEW

7.1. Vehicle Maneuverability Assessment

AutoTURN software was used to generate a vehicular turning template to confirm and demonstrate the accessibility of the proposed study area. The AutoTURN analysis demonstrates that a standard truck and trailer (WB-20 TAC-2017) can access the subject site and maneuver the proposed parking spaces. The AutoTURN analysis is provided in **Appendix L**.

7.2. Access Review

7.2.1. Access Restrictions

Based on the volume thresholds for access control detailed in Table 5 of the Access Management Elements section of Peel Region's Road Characterization Study, for re-developments and intensifications, the low impact threshold is less than 60 veh/hr during peak hour, the medium impact threshold is 60-100 veh/hr during peak hour and the high impact threshold is over 100 veh/hr during peak hour. Based on the trip generation calculations for the ultimate site condition, the proposed development is projected to generate a total of 33 two-way trips during AM peak hour and 54

two-way trips during PM peak hour. The Re-Development/Intensification volume thresholds for access control are detailed in **Table 7.1**.

Table 7.1: Volume Thresholds for Access Control

Re-Development/Intensification			
	Low Impact	Medium Impact	High Impact
	less than 60 veh/hr peak hour	60-100 veh/hr peak hour	over 100 veh/hr peak hour
Physical Access Restriction	N/A	N/A	Yes
Auxillary Lane(s) Requirement	N/A	N/A	Yes
Access Restriction on Title	N/A*	Yes	Yes
Auxillary Lane(s) Requirements on Title	N/A	Yes	Yes

Source: Peel Region Road Characterization Study, 2013

Based on the above volume thresholds, the applicable access management elements are applicable as follows:

Physical Access Restriction

Based on the above table, no access restrictions are required for the subject site under ultimate site conditions.

Auxiliary Lane(s) Requirement

Based on the above table, no auxiliary turn lanes are required to accommodate the forecast site traffic under ultimate conditions. However, the planned ultimate roadway configuration for Dixie Road includes a centre two-way left-turn lane, providing additional operational benefit for vehicles accessing the site.

Access Restriction on Title

Based on the above table, access restrictions on title are not applicable in Rural Road Conditions.

Auxiliary Lane(s) Requirements on Title

Based on the above table, auxiliary turn lane requirements on title are not applicable for the subject site, nor are they required based on the volume thresholds.

7.2.2. Access Spacing

In addition to the access restriction requirements discussed above, the proposed access has been reviewed with respect to the access spacing criteria outlined in Table 2 – Median Opening Spacing of the Region of Peel Road Characterization Study (RCS). Dixie Road is identified as a Suburban Connector, for which the RCS recommends a minimum spacing of 300 m between full-movement accesses.

A review of the surrounding roadway indicates that the existing full-movement access to the subject lands is located approximately 150 m south of the driveway serving the existing place of worship, 225 m south of a driveway serving a single detached dwelling, and 270 m south of the driveway serving an existing snow removal and landscaping business, measured between curb returns. In addition, the subject driveway shares a common curb cut with the adjacent UPS facility to the south, which also has additional driveway accesses to Dixie Road, the closest of which is located approximately 200 m south of the shared access.

While relocation of the access to achieve the recommended spacing would generally be desirable for a new development, the location of the existing driveway is constrained by aquatic features along the site frontage, limiting opportunities to relocate the access while maintaining reasonable site access. Furthermore, the proposed development will continue to utilize the existing shared access configuration, rather than introducing a new access point to Dixie Road.

From an operational perspective, the forecast site traffic associated with the proposed development falls below the low-impact threshold identified in the Region's RCS. Similarly, the adjacent land uses served by the nearby driveways are also anticipated to generate relatively low traffic volumes. As such, the potential for operational conflicts between adjacent accesses is expected to be limited.

Considering the existing access configuration, the physical constraints associated with the site frontage, the low traffic volumes associated with the subject and neighbouring accesses, and the acceptable operational performance demonstrated throughout this study, it is our opinion that the existing full-movement access is appropriate and can continue to safely and efficiently serve the proposed development despite the departure from the recommended access spacing criteria.

7.2.3. Sightline Analysis

7.2.4. Stopping Sight Distance

For the purposes of the stopping sight distance assessment, a design speed of 90 km/h was adopted for Dixie Road in accordance with the Geometric Design Guide for Canadian Roads (Transportation Association of Canada (TAC), 2017). A driver eye height of 1.05 m and an object height of 0.38 m, representing vehicle taillights, were assumed for the stopping sight distance assessment. For intersection sight distance assessments, an object height of 1.30 m, representing the top of a passenger vehicle, was adopted.

The effect of roadway grade on Dixie Road was considered in determining the required stopping sight distance. Based on the roadway profile, a grade of approximately +0.0053 was applied for the north approach and -0.0097 for the south approach. In accordance with Section 2.5.3 of the TAC Geometric Design Guide for Canadian Roads (2017), the braking distance is determined using the following equation:

$$d_b = V^2 / 254[(a/9.81) +/- G)]$$

Where:

d_b = Braking distance (m)
V = Design speed (km/h)
a = Deceleration rate (3.4 m/s²)
G = Roadway grade (expressed as a decimal)

Then:

$$\text{Stopping Sight Distance} = 0.278tV + d_b$$

Where t = 2.5s

Applying the above methodology results in required stopping sight distances of approximately 150 m for the north approach and 157 m for the south approach.

Available stopping sight distances at the site access were determined through on-site observations and are summarized in **Table 7.2**.

Table 7.2 – Stopping Sight Distance Assessment at Site Access

Approach	Required	Achieved	Difference
North Approach	153m	+200m	+47m
South Approach	157m	+200m	+43m

As shown in Table 7.2, the available stopping sight distance exceeds the minimum TAC requirement for both approaches, with a minimum surplus of 43 m. Accordingly, the available stopping sight distance at the site access satisfies the applicable design requirements and is considered adequate to safely accommodate vehicles accessing the proposed development.

7.2.5. Departure Sight Distance

To assess vehicles departing the proposed site access, a departure sight distance assessment was undertaken in accordance with Case B1 – Left Turn from the Minor Road described in Section 9.9.2.3 of the Geometric Design Guide for Canadian Roads (Transportation Association of Canada (TAC), 2017). This case evaluates the sight distance required for a vehicle stopped at the site access to safely complete a left-turn manoeuvre onto the major roadway under stop-controlled conditions.

In accordance with TAC (2017), the required intersection sight distance along the major roadway is determined using the following equation:

$$ISD = 0.278\ V_{major}\ t_g$$

Where:

ISD = Intersection sight distance (length of the leg of sight triangle along the major road) (m);
V_{major} = design speed of the major road (km/h); and,
t_g = time gap for minor road vehicle to enter the major road (s)

For Case B1, a design speed of 90 km/h and a time gap of 7.5 seconds were adopted, resulting in the following required departure sight distance:

$$ISD = 0.278 \times 90 \times 7.5$$
$$= 187.65\text{m say } \mathbf{190m}$$

Available departure sight distances at the proposed site access were determined through on-site observations and are summarized in **Table 7.3**.

Table 7.3 – Departure Sight Distance Assessment at Site Access

Approach	Required	Achieved	Difference
Northbound	190m	+200m	+10m
Southbound	190m	+200m	+10m

As shown in Table 7.3, the available departure sight distance exceeds the minimum TAC requirement in both directions, with a minimum surplus of 10 m. Accordingly, drivers exiting the site will have sufficient visibility of approaching traffic to safely complete left-turn manoeuvres onto Dixie Road under stop-controlled conditions.

Sight Distance Summary

Based on the results of the stopping and departure sight distance assessments, the available sight distance at the proposed site access exceeds the minimum requirements of the Geometric Design Guide for Canadian Roads (TAC, 2017) for both approaching and departing vehicles. The assessment confirms that drivers entering or exiting the site will have adequate visibility of approaching traffic to safely undertake the required manoeuvres, while through traffic on Dixie Road will have sufficient stopping sight distance to react to vehicles accessing the site. Accordingly, the existing full-movement site access is considered appropriate and can be expected to continue operating safely under the forecast traffic conditions associated with the proposed development.

8.0 CONCLUSION / FINDINGS

8.1. Study Findings

The findings of our analysis are as follows:

- The 10.70 ha subject lands are located on the west side of Dixie Road, approximately 1.4 km north of Mayfield Road, in the Town of Caledon. The subject lands currently operate as a temporary truck and trailer parking facility. The proposed development consists of an interim condition that maintains the existing truck and trailer parking operation, including 115 vehicle parking spaces, and an ultimate condition that redevelops a portion of the site to accommodate an 11,280 m² transportation depot incorporating a cross-dock facility and a 1,433 m² six-bay truck wash facility, while retaining truck and trailer parking on the remainder of the site and providing 108 vehicle parking spaces. Vehicular access to the site is currently provided via a full-movement driveway on Dixie Road, which shares a common curb cut with the adjacent property at 12424 Dixie Road.
- Based on the capacity analysis of existing traffic conditions, all study area intersections are currently operating with residual capacity, acceptable levels of service and manageable delay and queue lengths. The subject driveway also operates with acceptable levels of service, residual capacity and with negligible delay and queue lengths.
- The Region of Peel has identified significant transportation infrastructure improvements within the study area, including the widening of Dixie Road and Mayfield Road, intersection upgrades, and active transportation enhancements. These planned improvements are intended to increase roadway capacity, improve traffic operations, and support future growth within the surrounding area.
- Future operational analyses incorporated the Region's planned roadway network improvements, including the ultimate widening of Dixie Road and Mayfield Road, demonstrating that the surrounding transportation network will continue to accommodate future background traffic and the forecast site-generated traffic associated with the proposed development.
- The transportation assessment was completed using the existing and planned roadway network for the 2033 interim and 2038 ultimate planning horizons. While the Town of Caledon provided 2051 MMTMP EMME turning movement forecasts, insufficient information regarding the ultimate roadway network and operational assumptions was available to support a reliable capacity assessment of the proposed 2051 network.

- Future background traffic growth was forecast using a 2% annual growth rate, consistent with recent Transportation Impact Studies prepared for neighbouring developments, as the information necessary to derive interim and ultimate horizon year traffic volumes from the Town's 2051 MMTMP EMME model was not available.
- Under 2033 Future Background Traffic Conditions, the Mayfield Road/Dixie Road intersection is forecast to experience operational deficiencies due to future background traffic demand; however, a sensitivity assessment using the planned ultimate roadway configuration demonstrates that the identified deficiencies are attributable to the interim roadway network rather than the proposed development, while the subject driveway continues to operate with acceptable capacity and minimal delay.
- Operational analysis of the 2033 Future Background conditions under the planned ultimate roadway configuration indicates that the study area intersections and subject driveway are projected to operate with acceptable levels of service, residual capacity, and manageable delays and queues, confirming that the planned roadway improvements mitigate the deficiencies identified under the interim roadway configuration and provide an appropriate basis for assessing the 2038 Future Total (Ultimate) conditions.
- Based on the results of the operational analysis of the 2038 future background traffic conditions under the ultimate road network, the study area intersections and the subject driveway are projected to operate with residual capacity, with acceptable levels of service and with manageable delay and queue lengths during both AM and PM peak hour.
- Based on existing TMC data collection, the subject site generates a total of 33 two-way trips (17 inbound and 16 outbound) during AM peak hour and 54 two-way trips (32 inbound and 22 outbound) during PM peak hour.
- The interim development maintains the existing truck and trailer parking operation with no changes to site access or traffic generation. Accordingly, the existing observed site-generated traffic was carried forward for the interim assessment, with no additional external trips anticipated.
- The ultimate development is forecast to generate 36 two-way trips during the weekday AM peak hour and 50 two-way trips during the weekday PM peak hour. A net trip generation approach was adopted to account for the redevelopment of the existing truck and trailer parking operation, resulting in forecast traffic volumes that are generally consistent with the existing site operation and are expected to have a negligible impact on the surrounding road network.
- As the interim development maintains the existing truck and trailer parking operation, no separate operational assessment was required for the 2033 Future Total (Interim) conditions. The 2038 Future Total (Ultimate) assessment demonstrates that the study area intersections and site access are projected to operate with acceptable levels of service, residual capacity, and manageable delays and queues, with the proposed development resulting in only minor operational changes and a negligible impact on the surrounding road network.
- The interim site plan provides 115 vehicle parking spaces to accommodate the existing truck and trailer parking operation, while the ultimate development provides the required 108 vehicle parking spaces in accordance with the Town of Caledon's Zoning By-law.
- In accordance with the Town’s Zoning By-law requirements for barrier free parking, a total of five (5) barrier-free parking spaces (two (2) Type A spaces and three (3) Type B spaces) is required.
- AutoTURN analysis demonstrates that a standard truck and trailer (WB-20 TAC-2017) can access the subject site and maneuver the proposed parking spaces.
- Based on the Region of Peel Road Characterization Study (RCS), the forecast site traffic falls within the low-impact access threshold for redevelopment/intensification. Accordingly, no physical access restrictions or

auxiliary turn lanes are warranted, and the planned ultimate roadway configuration for Dixie Road, which includes a centre two-way left-turn lane, will further facilitate safe and efficient access to the site.

- Although the existing full-movement site access does not satisfy the Region of Peel Road Characterization Study's recommended 300 m access spacing for a Suburban Connector, the existing shared access configuration is constrained by aquatic features along the site frontage and will not be modified as part of the proposed redevelopment. Given the low-impact traffic volumes associated with the proposed and adjacent developments, together with the acceptable operational performance demonstrated throughout this study, the existing access is considered appropriate and can continue to safely and efficiently serve the proposed development.
- The available stopping sight distance exceeds the minimum TAC requirement for both approaches, with a minimum surplus of 43 m. Accordingly, the available stopping sight distance at the site access satisfies the applicable design requirements and is considered adequate to safely accommodate vehicles accessing the proposed development.
- The available departure sight distance exceeds the minimum TAC requirement in both directions, with a minimum surplus of 10 m. Accordingly, drivers exiting the site will have sufficient visibility of approaching traffic to safely complete left-turn manoeuvres onto Dixie Road under stop-controlled conditions.

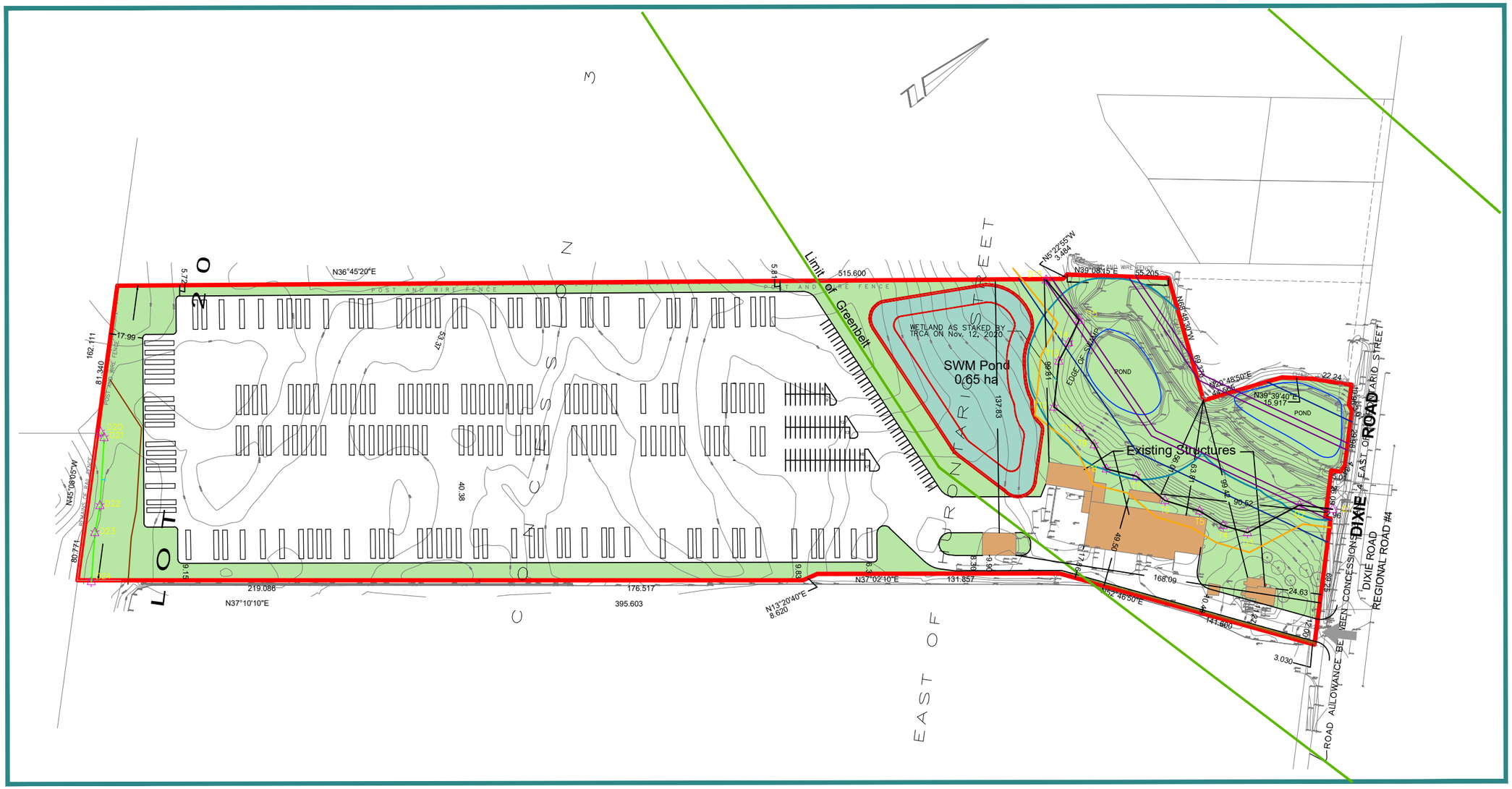
8.2. Study Conclusions & Recommendations

Based on the findings of this study, our report concludes and / or recommends the following:

- The proposed interim and ultimate development is expected to have a negligible impact on the surrounding transportation network. The interim condition maintains the existing truck and trailer parking operation with no changes to site-generated traffic, while the ultimate redevelopment is forecast to generate traffic volumes that are generally consistent with the existing site operation, resulting in only minor changes to the operational performance of the surrounding road network.
- Operational analyses demonstrate that the study area intersections and the subject driveway are projected to operate with acceptable levels of service, residual capacity, and manageable delays and queues under the 2038 Future Total (Ultimate) conditions. The operational deficiencies identified under the 2033 Future Background scenario are attributable to the interim roadway network and are mitigated through the Region of Peel's planned roadway improvements along Dixie Road and Mayfield Road.
- The interim site plan provides 115 vehicle parking spaces, which are considered appropriate to accommodate the existing truck and trailer parking operation. Under ultimate conditions, the proposed development provides 108 vehicle parking spaces, including the required barrier-free parking spaces, in accordance with the Town of Caledon's Zoning By-law.
- The completed AutoTURN assessment demonstrates that the proposed site layout can safely accommodate the design vehicle (WB-20 TAC-2017), confirming that the site's internal circulation and parking layout are suitable for the proposed operation.
- The existing full-movement site access is considered appropriate to continue serving the proposed development. Although the access does not satisfy the Region of Peel's recommended access spacing criteria, the departure is justified by existing site constraints, low forecast traffic volumes, acceptable operational performance, and compliance with TAC stopping and departure sight distance requirements.
- Based on the findings of this Transportation Impact Study, the proposed development is expected to operate safely and efficiently within the surrounding transportation network.

APPENDIX A:

Site Plan



Subject Lands - 10.7 ha	
Limit of Greenbelt	
Waterbody	
Wetland +30m	
Meanderbelt	
Meanderbelt +30m	
Staked Valleyland	
Staked Valleyland 10m Buffer	
Staked Dripline	
Woodland 20m Buffer	

Schedule of Land Use

Area of Buildings	0.25 ha
Gravel Parking Area	6.37 ha
SWM Pond	0.65 ha
Vegetation Groundcover	1.57 ha
Environmental Area	1.86 ha
Total Area	10.70 ha

Vehicle Parking Spaces	115
Area inside Greenbelt	3.40 ha
Area outside Greenbelt	7.30 ha

Scale:

0 20 40 60 80 100m

CONCEPTUAL TRANSPORT TRUCK / TRAILER PARKING LAYOUT

12434 DIXIE ROAD

Town of Caledon
Regional Municipality of Peel

Date	Revision	By
May. 12/26		
Aug 4/26		

Prepared For:

MGP File: 19-2852

MGP Malone Given Parsons
140 Renfrew Drive, Suite 201 | Markham, ON | L3R 6B3
905 513 0170 | mgp.ca



- Subject Lands - 10.7 ha
- Limit of Greenbelt
- Waterbody
- Wetland +30m
- Meanderbelt
- Meanderbelt +30m
- Staked Valleyland
- Staked Valleyland 10m Buffer
- Staked Dripline
- Woodland 20m Buffer

Schedule of Land Use

Area of Buildings	1.52 ha
Gravel Parking Area	5.10 ha
SWM Pond	0.65 ha
Vegetation Groundcover	1.57 ha
Environmental Area	1.86 ha
Total Area	10.70 ha

Vehicle Parking Spaces	108
Area inside Greenbelt	3.40 ha
Area outside Greenbelt	7.30 ha

Scale:

0 20 40 60 80 100m

CONCEPTUAL CROSS-DECK FACILITY

12434 DIXIE ROAD

Town of Caledon
Regional Municipality of Peel

Date	Revision	By
Nov 12/25		
May 11/26		

Prepared For:

MGP File: 19-2852

MGP Malone Given Parsons

APPENDIX B:

Terms of Reference

520 Industrial Parkway South, Suite 201
Aurora, Ontario L4G 6W8

Phone: 905-503-2563
www.nextrans.ca

nexTrans CONSULTING ENGINEERS
NextEng Consulting Group Inc.

To: Emma Howlett, Town of Caledon
Hashim Hamdani, Region of Peel

From: Kristian Aviles, Nextrans Consulting Engineers

Date: May 12, 2026

Re: **Terms of Reference – Transportation Impact Study**
Proposed Truck Parking / Transportation Depot Development
12434 Dixie Road, Town of Caledon
Our Project No. NT-20-105

INTRODUCTION

We wish to confirm the following work plan for a Transportation Impact Study for a proposed truck parking / transportation depot development located on the west side of Dixie Road, north of Mayfield Road, municipally known as 12434 Dixie Road, (herein referred to as the "subject site"), in the Town of Caledon. The subject site is designated under the Town of Caledon's Zoning By-law. The subject lands are currently occupied by a truck parking facility. **Figure 1** illustrates the location of the subject site.

Figure 1: Subject Site Location



At the time of preparing this Terms of Reference, it is noted that a conceptual plan has been provided and the development proposal envisions an interim use as a truck and trailer parking facility. The ultimate condition of the site envisions a transportation depot with a 11,280 m^2 cross dock and a 1,433 m^2 truck wash with six (6) wash bays. Vehicular access to the subject lands is envisioned via a full movement driveway onto Dixie Road. The existing structures on-site are to remain and be utilized as ancillary office and storage.

Nextrans proposes to prepare the Transportation Impact Study in accordance with the Town of Caledon Traffic Impact and Parking Study Terms of Reference and the Region of Peel's Traffic Impact Study Guidelines.

STUDY AREA

Nextrans proposes to collect turning movement count (TMC) data at the following study area intersections during AM (7:00 AM – 10:00 AM) and PM (4:00 PM – 7:00 PM) peak periods:

1. 12434 Dixie Road Driveway / Airport Road (unsignalized); and,
2. 12424 Dixie Road (North Driveway) / Airport Road (unsignalized).

BACKGROUND TRAFFIC

General Corridor Growth Rate

Nextrans will consult with Town and Region staff as necessary to determine corridor growth rates within the study area. In lieu of sufficient data to establish corridor growth, a conservative 2% growth rate per annum will be applied to existing traffic volumes to project future growth.

Road Network Improvements

Nextrans will note any planned road network improvements identified within the study area and account for any traffic diversions associated with these improvements within in our analysis.

Background Development Traffic

Nextrans has identified the following background development within the area surrounding the subject site that will be considered within the traffic analysis as background development traffic volumes.

- 12489 Dixie Road - SPA 2024-0016
- 12861 Dixie Road - SPA 2025-0017
- 12862 Dixie Road - SPA 2025-0004
- 0 & 12035 Dixie Road - RZ 2021-0007

Nextrans requests all relevant background traffic documents be made available for inclusion in our analysis.

TRIP GENERATION, DISTRIBUTION, & ASSIGNMENT

Trip generation for the interim truck and trailer parking facility scenario will be based on existing traffic activity observed at the site using available driveway traffic count data. Trip generation for the ultimate transportation depot scenario will be estimated using applicable rates and equations published in the ITE Trip Generation Manual, 12th Edition, supplemented by observed trip generation characteristics from comparable facilities previously surveyed by our office, where appropriate.

The general trip distribution will be based on the distribution of existing traffic volumes.

FUTURE TRAFFIC SCENARIOS

Interim future background and future total traffic operations analyses will be undertaken for the 2033 horizon year, representing a five (5)-year planning horizon from the assumed full build-out year of 2028. Ultimate future background and future total traffic operations analyses for the proposed transportation depot will be undertaken for the 2038 horizon year to assess the long-term operational impacts associated with the ultimate site redevelopment.

REMEDIAL MEASURES

Under future total conditions, critical movements will be identified. Critical movements include through movements or shared through/turning movements that operate at a v/c of 0.90 or above, exclusive movements that exceed a v/c of 1.00 will be identified, and movements with 95th percentile queues that exceed the storage length.

Remedial actions such as intersection road improvements (e.g. road widening, additional road lane) or signal timing split optimization (cycle length will remain unchanged) will be considered. If remedial measures are to be implemented, a scenario will be provided demonstrating the change in intersection operations.

SITE PLAN REVIEW

Vehicle Maneuverability Analysis

A vehicle swept path analysis will be undertaken to confirm the on-site functionality of driveway entrances, drive aisles, parking spaces, loading spaces, etc., of the subject site for typical vehicles that are intended to access the subject site.

Access Review

An access review will be undertaken to assess the proposed site access configuration and its interaction with the adjacent roadway network. The review will consider access location, spacing, sight distance, traffic operations, safety, and conformance with applicable municipal and/or regional design criteria. Potential access-related improvements, including auxiliary turn lanes, and driveway modifications, will be identified where warranted.

PARKING & LOADING

The study will provide a review of the proposed vehicular parking space provision and the minimum vehicular parking space requirements from the Town's Comprehensive Zoning By-law Section 5 – Parking, Loading and Delivery Standards, as amended.

TRANSPORTATION DEMAND MANAGEMENT

A review of existing nearby transportation facilities and possible initiatives and policies to promote and encourage modes of transportation in lieu of single occupant vehicle (SOV) trips will be made to influence the travel behaviour of residents and visitors to reduce travel demand and create a more efficient transportation network.

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

NEXTRANS CONSULTING ENGINEERS



Kristian Aviles, B.Eng
Transportation Analyst

Kristian Aviles

From: Xiao, Kaiwen <kaiwen.xiao@peelregion.ca>
Sent: May 14, 2026 2:51 PM
To: Kristian Aviles
Cc: Hamdani, Hashim; Emma Howlett
Subject: Transportation Development Comments: Transportation Impact Study Terms of Reference - 12434 Dixie Road (RZ 2021-0010 / PRE 2025-0205) - Our File: D-00428874W

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Kristian,

Please see the traffic comments below and the link here for the detailed Region of Peel TIS formatting and contact information for background traffic (growth rate, AADT, signal timing, etc.).

- Regional Road 7 (Dixie Road) – Suburban Connector

Access Type	Minimum Spacing Requirement
Full to Full	300 m
Full to RI/RO	75 m
RI/RO to RI/RO	75 m
Full to LI/RI/RO	150 m

- Please review the Controlled Access By-law 62-2013, which speaks to the Road Characterization Study (RCS). The RCS defines our various road classifications as well as the minimum access spacing distances that are associated with them.
- Access type/road connections, location and configuration (including the need for auxiliary turn lanes) will be determined after receipt and review of the Traffic Impact study.

Site Traffic – Trip Generation Estimations

- Acceptable

Proxy Site

- Min. one proxy site should be considered and used in the TIS.

Future Total Traffic Assessment

- Acceptable

Existing Site Conditions

- Please provide the existing traffic environment around the site, including existing road network and existing traffic volume.

Study Intersections

- Please consider the following intersection depending on truck routes been considered:
    - The intersection of Dixie Road and Mayfield Road

Internal Site Circulation/Traffic Safety

- Please note that AutoTURN assessment will need to be prepared and provided in the TIS, using the appropriate design vehicles that will utilize the access.

Future Road / Transit / Active Transportation Network

- Please note that there are two Capital Projects within the vicinity of this site; Capital Project #11-4020 and #26-4060 for Road Widening - Dixie Road - from Mayfield Road to Old School Road. The Project Manager for the Capital Project is Nour Tabieh. Nour must be consulted for any additional requirements that may be necessitated due to the Capital Project, including but not limited to additional property requirements over and above the Official Plan requirements, pedestrian infrastructure and any other urbanization that may be required (nour.tabieh@peelregion.ca).

Contacts

- Please see the following contacts to obtain data for your analysis:
    - Please contact Transportation Planning transportationplanningdata@peelregion.ca to confirm growth rates along the subject Regional road(s).
    - Please contact Damian Jamroz (damian.jamroz@peelregion.ca) Supervisor of Traffic Operations to obtain the most recent TMCs and/or average annual daily traffic (AADT).
    - Please contact Sean Nix (sean.nix@peelregion.ca) Supervisor of Traffic Signals and Streetlighting, to obtain traffic signal timing parameters and ensure that the information includes the appropriate walk/don't walk splits, recall modes and offsets.
    - Please contact your Local Municipality Planning Department of Town of Caledon & the Region of Peel to obtain details on the surrounding developments in the area that would affect traffic capacity in the planning horizon years.

Thank you!

Warm regards,
Kaiwen Xiao

Region of Peel
working with you

Specialist, Transportation Development
Transportation Division, Public Works
10 Peel Centre Drive Suite B, 4th Floor
Brampton, ON L6T 4B9

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From: Hamdani, Hashim <Hashim.Hamdani@peelregion.ca>
Sent: Tuesday, May 12, 2026 1:50 PM
To: Xiao, Kaiwen <kaiwen.xiao@peelregion.ca>
Subject: FW: Transportation Impact Study Terms of Reference - 12434 Dixie Road (RZ 2021-0010 / PRE 2025-0205)

FYI

Hashim Ali Hamdani

Supervisor

Transportation Development
Transportation Division, Public Works

10 Peel Centre Drive Suite B, 4th Floor

Brampton, ON L6T 4B9

905-791-7800 Ext. 7852

905-872-2353 (cell)

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From: Kristian Aviles <kristian@nextrans.ca>
Sent: May 12, 2026 1:25 PM
To: Hamdani, Hashim <Hashim.Hamdani@peelregion.ca>; Emma Howlett <emma.howlett@caledon.ca>
Subject: Transportation Impact Study Terms of Reference - 12434 Dixie Road (RZ 2021-0010 / PRE 2025-0205)

CAUTION: External Email. Do not click on links or open attachments you do not trust.

Good afternoon,

Please see the attached terms of reference for the scope of work for a Transportation Impact Study for a proposed truck and trailer parking facility located at 12434 Airport Road in the Town of Caledon.

Please advise as soon as possible whether the proposed scope of work is acceptable, as we are aiming to coordinate TMC data collection ASAP.

Thank you,

Kristian Aviles, B.Eng.

Transportation Analyst

o: 905-503-2563 ext. 206

c: 647-928-1222
e: kristian@nextrans.ca
w: www.nextrans.ca

NexTrans Consulting Engineers

A Division of NextEng Consulting Group Inc.

520 Industrial Parkway South, Suite 201

Aurora ON L4G 6W8

MEMORANDUM

Transportation Division
Engineering Public Works & Transportation

Date: May 20, 2025

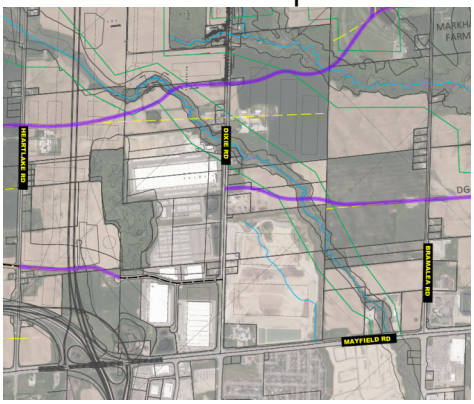
To: Samantha Yeung, Intermediate Planner
Development, Planning & Development Department

From: Emma Howlett, P.Eng., Transportation Engineer
Transportation, Engineering Public Works & Transportation Department

Subject: PRE 2025-0205 - 12434 Dixie Road - TOR

Transportation Engineering Staff have reviewed the TOR for the applications mentioned above and provided the following comments.

- The applicant shall address applicable PARC comments as part of the Transportation Impact Study. This includes, but is not limited to, potential MTO circulation requirements and standard site plan application PARC comments.
- The study shall conform to the Town's Standard Transportation Impact Study (TIS) Terms of Reference, as applicable. This includes but is not limited to, background developments and active transportation review.
- Parking spaces shall be provided according to the Town's Zoning By-Law. If fewer than the required spaces are offered, a Parking Justification Study is required. The Terms of Reference (work plan) for the parking justification is recommended to be circulated to Town Transportation staff before data collection.
- In addition to the proposed study intersections, review the intersection of Mayfield Road and Dixie Road.
- Include a scenario under ultimate conditions with the proposed MMTMP addendum road network intersections along Dixie Road (3 additional intersections), shown below in purple. For Emme volumes associated with the MMTMP addendum please contact Jaspreet.Kaur@caledon.ca.



- If Proxy Site Data is used survey the same site 3 different days or 3 different sites (to align with ITE Trip Generation Handbook 3rd Edition methodology) .

APPENDIX C:

Traffic Data

Spectrum

Turning Movement Count
Location Name: DIXIE ROAD & MAYFIELD ROAD
Date: Wed, May 20, 2026 Deployment Lead: Constantinos Kotassidis

NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY
SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Turning Movement Count (3 . DIXIE ROAD & MAYFIELD ROAD) CustID: 00427526

Start Time	Southbound DIXIE RD						Westbound MAYFIELD RD						Northbound DIXIE RD						Eastbound MAYFIELD RD						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
2026-05-20 07:00:00	46	23	12	0	0	81	8	153	10	0	1	171	7	8	22	0	1	37	30	367	57	0	1	454	743	
2026-05-20 07:15:00	43	30	10	0	0	83	6	169	8	0	1	183	6	14	12	0	1	32	48	337	44	0	0	429	727	
2026-05-20 07:30:00	39	43	12	0	1	94	5	160	14	0	4	179	8	17	27	0	2	52	63	456	54	0	1	573	898	
2026-05-20 07:45:00	35	37	12	0	0	84	12	214	27	0	0	253	12	16	26	0	0	54	57	454	56	0	0	567	958	3326
2026-05-20 08:00:00	32	43	7	0	0	82	3	218	23	0	0	244	14	30	36	0	1	80	44	450	57	0	1	551	957	3540
2026-05-20 08:15:00	35	32	8	0	0	75	12	212	14	0	0	238	11	19	38	0	2	68	61	374	51	0	2	486	867	3680
2026-05-20 08:30:00	25	43	8	0	1	76	8	185	15	0	1	208	13	24	47	0	3	84	51	370	62	0	1	483	851	3633
2026-05-20 08:45:00	31	30	19	0	2	80	8	183	20	0	3	211	8	34	22	0	2	64	59	349	58	0	0	466	821	3496
2026-05-20 09:00:00	50	44	10	0	1	104	6	133	12	0	1	151	12	16	23	0	0	51	58	368	60	2	0	488	794	3333
2026-05-20 09:15:00	107	52	21	0	1	180	10	153	15	0	1	178	8	12	11	0	3	31	45	291	40	0	2	376	765	3231
2026-05-20 09:30:00	62	37	18	0	1	117	5	178	16	0	1	199	8	13	16	0	0	37	36	333	56	2	0	427	780	3160
2026-05-20 09:45:00	39	35	11	0	0	85	6	163	12	0	0	181	10	17	20	0	1	47	34	283	55	0	1	372	685	3024
BREAK																										
2026-05-20 16:00:00	64	21	7	0	3	92	15	245	9	0	5	269	20	37	45	0	3	102	41	296	57	1	1	395	858	
2026-05-20 16:15:00	53	25	12	0	0	90	14	336	13	0	0	363	19	36	36	0	4	91	46	315	51	0	4	412	956	
2026-05-20 16:30:00	80	29	11	0	0	120	13	287	12	0	0	312	18	41	64	0	5	123	43	338	63	0	4	444	999	
2026-05-20 16:45:00	64	23	16	0	0	103	19	310	13	0	6	342	17	37	55	0	4	109	45	308	49	1	0	403	957	3770
2026-05-20 17:00:00	65	34	24	0	5	123	11	299	12	0	7	322	20	31	58	0	0	109	43	341	61	0	1	445	999	3911
2026-05-20 17:15:00	45	26	11	1	2	83	8	333	9	0	6	350	17	33	58	0	1	108	39	321	37	1	3	398	939	3894
2026-05-20 17:30:00	71	36	11	0	0	118	8	340	14	0	1	362	17	21	52	0	4	90	51	344	38	0	2	433	1003	3898
2026-05-20 17:45:00	46	25	8	0	0	79	9	341	10	0	0	360	19	33	57	0	0	109	54	282	49	0	0	385	933	3874
2026-05-20 18:00:00	48	16	5	0	0	69	6	314	19	0	0	339	9	35	50	0	1	94	40	324	37	1	1	402	904	3779
2026-05-20 18:15:00	36	18	10	0	0	64	12	335	9	0	1	356	18	26	43	0	2	87	37	345	35	1	0	418	925	3765
2026-05-20 18:30:00	43	30	14	0	0	87	10	299	11	0	0	320	15	28	45	0	1	88	49	324	47	0	0	420	915	3677
2026-05-20 18:45:00	46	25	8	0	0	79	11	297	12	0	0	320	16	13	40	0	2	69	57	318	51	0	0	426	894	3638
Grand Total	1205	758	286	1	17	2250	225	5865	329	0	39	6419	322	592	903	0	43	1817	1132	8289	1225	9	25	10655	**21141**	-
Approach%	53.6%	33.7%	12.7%	0%		-	3.5%	91.4%	5.1%	0%		-	17.7%	32.6%	49.7%	0%		-	10.6%	77.8%	11.5%	0.1%		-	-	-
Totals %	5.7%	3.6%	1.4%	0%		10.6%	1.1%	27.7%	1.6%	0%		30.4%	1.5%	2.8%	4.3%	0%		8.6%	5.4%	39.2%	5.8%	0%		50.4%	-	-
Heavy	298	117	76	0		-	56	701	47	0		-	48	65	38	0		-	55	735	285	0		-	-	-
Heavy %	24.7%	15.4%	26.6%	0%		-	24.9%	12%	14.3%	0%		-	14.9%	11%	4.2%	0%		-	4.9%	8.9%	23.3%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

Peak Hour: 07:30 AM - 08:30 AM **Weather: Broken Clouds (11 °C)**

Start Time	Southbound DIXIE RD						Westbound MAYFIELD RD						Northbound DIXIE RD						Eastbound MAYFIELD RD						Int. Total (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	
2026-05-20 07:30:00	39	43	12	0	1	94	5	160	14	0	4	179	8	17	27	0	2	52	63	456	54	0	1	573	898
2026-05-20 07:45:00	35	37	12	0	0	84	12	214	27	0	0	253	12	16	26	0	0	54	57	454	56	0	0	567	958
2026-05-20 08:00:00	32	43	7	0	0	82	3	218	23	0	0	244	14	30	36	0	1	80	44	450	57	0	1	551	957
2026-05-20 08:15:00	35	32	8	0	0	75	12	212	14	0	0	238	11	19	38	0	2	68	61	374	51	0	2	486	867
Grand Total	141	155	39	0	1	335	32	804	78	0	4	914	45	82	127	0	5	254	225	1734	218	0	4	2177	**3680**
Approach%	42.1%	46.3%	11.6%	0%		-	3.5%	88%	8.5%	0%		-	17.7%	32.3%	50%	0%		-	10.3%	79.7%	10%	0%		-	**-**
Totals %	3.8%	4.2%	1.1%	0%		9.1%	0.9%	21.8%	2.1%	0%		24.8%	1.2%	2.2%	3.5%	0%		6.9%	6.1%	47.1%	5.9%	0%		59.2%	**-**
PHF	0.9	0.9	0.81	0		0.89	0.67	0.92	0.72	0		0.9	0.8	0.68	0.84	0		0.79	0.89	0.95	0.96	0		0.95	0.96
Heavy	32	32	12	0		76	7	122	18	0		147	12	14	7	0		33	11	135	53	0		199	455
Heavy %	22.7%	20.6%	30.8%	0%		22.7%	21.9%	15.2%	23.1%	0%		16.1%	26.7%	17.1%	5.5%	0%		13%	4.9%	7.8%	24.3%	0%		9.1%	12.4%
Lights	109	123	27	0		259	25	682	60	0		767	33	68	120	0		221	214	1599	165	0		1978	3225
Lights %	77.3%	79.4%	69.2%	0%		77.3%	78.1%	84.8%	76.9%	0%		83.9%	73.3%	82.9%	94.5%	0%		87%	95.1%	92.2%	75.7%	0%		90.9%	87.6%
Single-Unit Trucks	18	24	4	0		46	5	51	10	0		66	2	13	0	0		15	8	49	35	0		92	219
Single-Unit Trucks %	12.8%	15.5%	10.3%	0%		13.7%	15.6%	6.3%	12.8%	0%		7.2%	4.4%	15.9%	0%	0%		5.9%	3.6%	2.8%	16.1%	0%		4.2%	6%
Buses	1	3	2	0		6	0	16	2	0		18	9	1	6	0		16	1	32	2	0		35	75
Buses %	0.7%	1.9%	5.1%	0%		1.8%	0%	2%	2.6%	0%		2%	20%	1.2%	4.7%	0%		6.3%	0.4%	1.8%	0.9%	0%		1.6%	2%
Articulated Trucks	13	5	6	0		24	2	55	6	0		63	1	0	1	0		2	2	54	16	0		72	161
Articulated Trucks %	9.2%	3.2%	15.4%	0%		7.2%	6.3%	6.8%	7.7%	0%		6.9%	2.2%	0%	0.8%	0%		0.8%	0.9%	3.1%	7.3%	0%		3.3%	4.4%
Pedestrians	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	5	-	-	-	-	-	4	-	**-**
Pedestrians%	-	-	-	-	7.1%		-	-	-	-	28.6%		-	-	-	-	35.7%		-	-	-	-	28.6%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

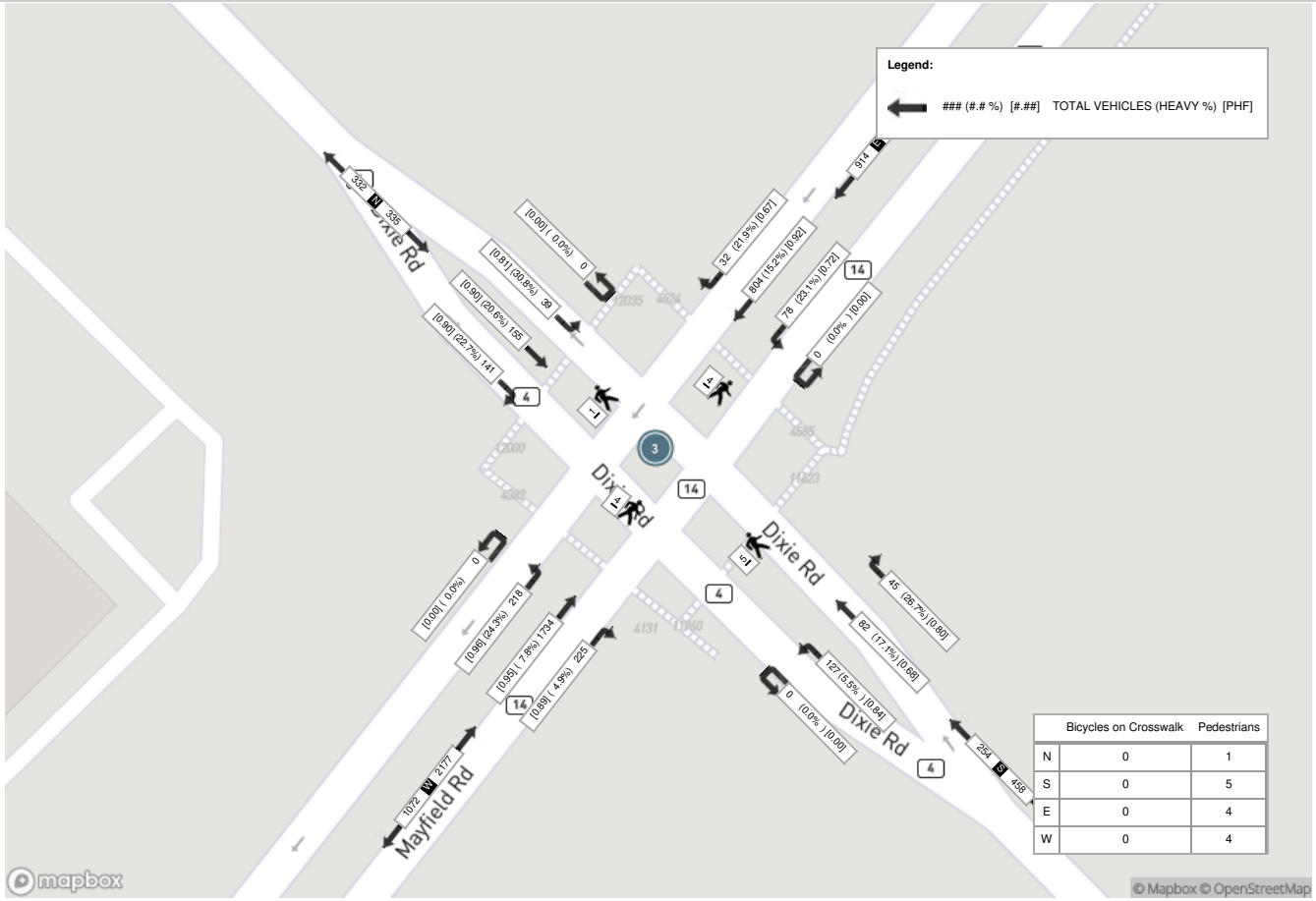
Turning Movement Count
Location Name: DIXIE ROAD & MAYFIELD ROAD
Date: Wed, May 20, 2026 Deployment Lead: Constantinos Kotassidis

NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 04:15 PM - 05:15 PM Weather: Broken Clouds (17 °C)

Start Time	Southbound DIXIE RD						Westbound MAYFIELD RD						Northbound DIXIE RD						Eastbound MAYFIELD RD						Int. Total (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	
2026-05-20 16:15:00	53	25	12	0	0	90	14	336	13	0	0	363	19	36	36	0	4	91	46	315	51	0	4	412	956
2026-05-20 16:30:00	80	29	11	0	0	120	13	287	12	0	0	312	18	41	64	0	5	123	43	338	63	0	4	444	999
2026-05-20 16:45:00	64	23	16	0	0	103	19	310	13	0	6	342	17	37	55	0	4	109	45	308	49	1	0	403	957
2026-05-20 17:00:00	65	34	24	0	5	123	11	299	12	0	7	322	20	31	58	0	0	109	43	341	61	0	1	445	999
Grand Total	262	111	63	0	5	436	57	1232	50	0	13	1339	74	145	213	0	13	432	177	1302	224	1	9	1704	**3911**
Approach%	60.1%	25.5%	14.4%	0%		-	4.3%	92%	3.7%	0%		-	17.1%	33.6%	49.3%	0%		-	10.4%	76.4%	13.1%	0.1%		-	**-**
Totals %	6.7%	2.8%	1.6%	0%		11.1%	1.5%	31.5%	1.3%	0%		34.2%	1.9%	3.7%	5.4%	0%		11%	4.5%	33.3%	5.7%	0%		43.6%	**-**
PHF	0.82	0.82	0.66	0		0.89	0.75	0.92	0.96	0		0.92	0.93	0.88	0.83	0		0.88	0.96	0.95	0.89	0.25		0.96	0.98
Heavy	46	4	9	0		59	17	104	6	0		127	7	5	7	0		19	10	124	38	0		172	377
Heavy %	17.6%	3.6%	14.3%	0%		13.5%	29.8%	8.4%	12%	0%		9.5%	9.5%	3.4%	3.3%	0%		4.4%	5.6%	9.5%	17%	0%		10.1%	9.6%
Lights	216	107	54	0		377	40	1128	44	0		1212	67	140	206	0		413	167	1178	186	1		1532	3534
Lights %	82.4%	96.4%	85.7%	0%		86.5%	70.2%	91.6%	88%	0%		90.5%	90.5%	96.6%	96.7%	0%		95.6%	94.4%	90.5%	83%	100%		89.9%	90.4%
Single-Unit Trucks	22	3	3	0		28	6	42	2	0		50	1	5	5	0		11	2	47	12	0		61	150
Single-Unit Trucks %	8.4%	2.7%	4.8%	0%		6.4%	10.5%	3.4%	4%	0%		3.7%	1.4%	3.4%	2.3%	0%		2.5%	1.1%	3.6%	5.4%	0%		3.6%	3.8%
Buses	2	0	2	0		4	0	4	1	0		5	4	0	2	0		6	4	28	0	0		32	47
Buses %	0.8%	0%	3.2%	0%		0.9%	0%	0.3%	2%	0%		0.4%	5.4%	0%	0.9%	0%		1.4%	2.3%	2.2%	0%	0%		1.9%	1.2%
Articulated Trucks	22	1	4	0		27	11	58	3	0		72	2	0	0	0		2	4	49	26	0		79	180
Articulated Trucks %	8.4%	0.9%	6.3%	0%		6.2%	19.3%	4.7%	6%	0%		5.4%	2.7%	0%	0%	0%		0.5%	2.3%	3.8%	11.6%	0%		4.6%	4.6%
Pedestrians	-	-	-	-	5	-	-	-	-	-	13	-	-	-	-	-	11	-	-	-	-	-	8	-	**-**
Pedestrians%	-	-	-	-	12.5%		-	-	-	-	32.5%		-	-	-	-	27.5%		-	-	-	-	20%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	5%		-	-	-	-	2.5%		**-**

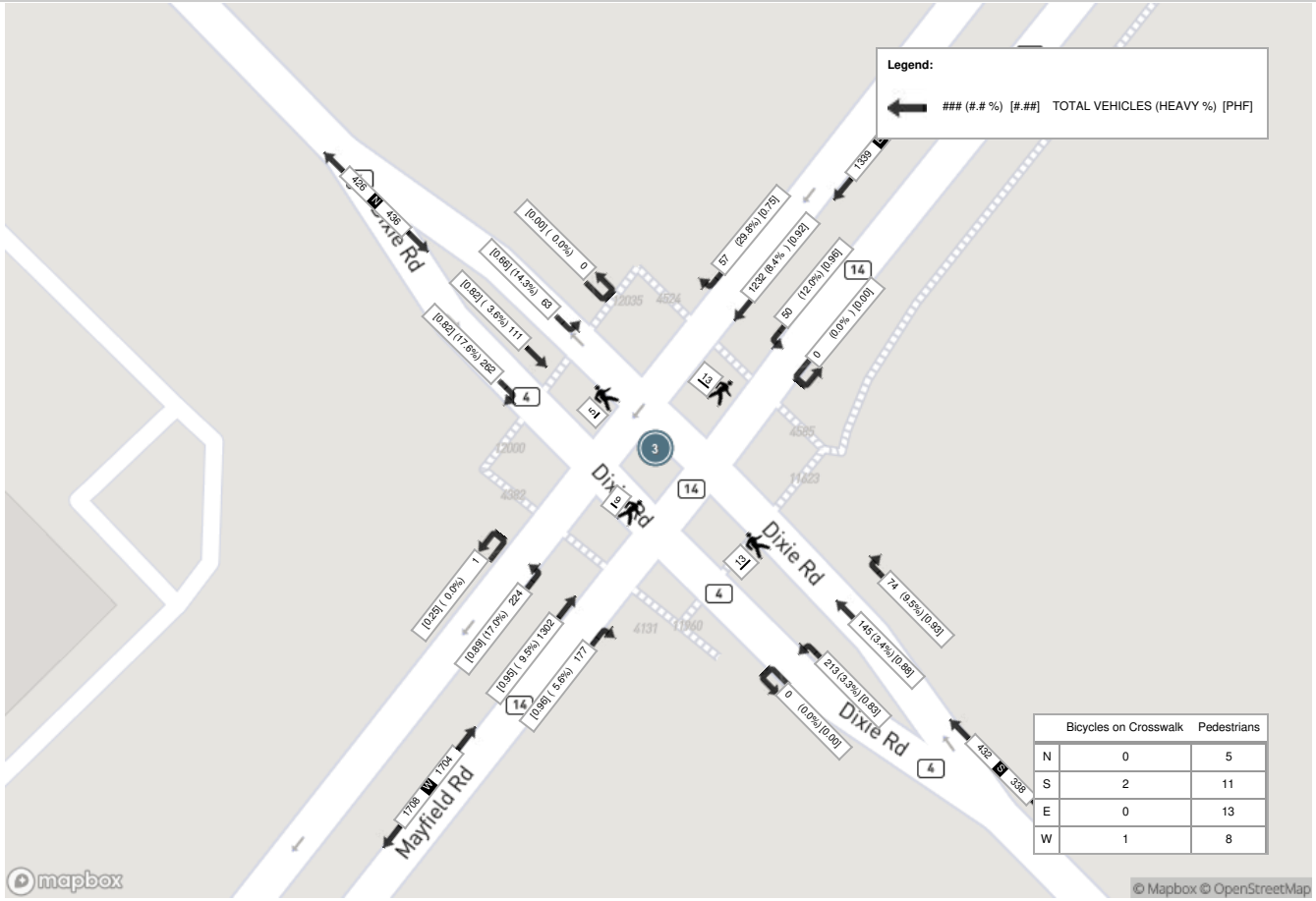
Peak Hour: 07:30 AM - 08:30 AM **Weather: Broken Clouds (11 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	1
S	0	5
E	0	4
W	0	4

NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 04:15 PM - 05:15 PM **Weather: Broken Clouds (17 °C)**



Spectrum

Turning Movement Count
Location Name: 12434 DIXIE ROAD & DIXIE ROAD
Date: Wed, May 20, 2026 Deployment Lead: Constantinos Kotassidis

NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY
SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Turning Movement Count (1 . 12434 DIXIE ROAD & DIXIE ROAD)

Start Time	Southbound DIXIE ROAD						Northbound DIXIE ROAD						Eastbound UPS S DRIVEWAY						Southeastbound UPS N DRIVEWAY						Int. Total (15 min)	Int. Total (1 hr)
	Hard Right N:NW	Right N:W	Thru N:S	UTurn N:N	Peds N:	Approach Total	Thru S:N	Bear Left S:NW	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Left W:N	Hard Left W:NW	UTurn W:W	Peds W:	Approach Total	Hard Right NW:W	Bear Right NW:S	Hard Left NW:N	UTurn NW:NW	Peds NW:	Approach Total		
2026-05-20 07:00:00	1	2	66	0	0	69	34	6	5	0	0	45	6	0	0	0	0	6	0	5	2	0	0	7	127	
2026-05-20 07:15:00	0	1	70	4	0	75	43	2	1	1	0	47	1	0	0	0	0	1	0	4	0	0	0	4	127	
2026-05-20 07:30:00	1	0	71	0	0	72	39	1	1	2	0	43	2	0	0	0	1	2	0	4	0	0	1	4	121	
2026-05-20 07:45:00	1	0	63	2	0	66	31	5	8	0	0	44	0	0	0	0	0	0	0	1	0	0	0	1	111	486
2026-05-20 08:00:00	2	1	59	1	0	63	38	4	3	1	0	46	4	0	0	0	0	4	0	4	0	0	0	4	117	476
2026-05-20 08:15:00	0	0	54	2	0	56	26	3	8	2	0	39	0	1	0	0	0	1	0	5	0	0	0	5	101	450
2026-05-20 08:30:00	0	1	53	3	0	57	30	2	4	1	0	37	1	0	0	0	0	1	0	1	0	0	0	1	96	425
2026-05-20 08:45:00	0	0	46	1	0	47	19	9	8	1	0	37	3	0	0	0	0	3	0	4	0	0	0	4	91	405
2026-05-20 09:00:00	2	1	50	1	0	54	39	8	7	1	0	55	6	1	0	0	0	7	0	0	0	0	0	0	116	404
2026-05-20 09:15:00	1	0	51	1	0	53	25	2	1	2	0	30	45	15	0	0	0	60	0	3	0	0	0	3	146	449
2026-05-20 09:30:00	0	0	33	1	0	34	34	4	2	0	0	40	18	3	0	0	0	21	0	4	0	0	0	4	99	452
2026-05-20 09:45:00	0	1	43	0	0	44	40	9	5	0	0	54	9	1	0	0	0	10	1	5	0	0	0	6	114	475
BREAK																										
2026-05-20 16:00:00	2	2	52	0	0	56	81	6	6	1	0	94	9	0	0	0	0	9	0	5	0	0	0	5	164	
2026-05-20 16:15:00	2	0	58	0	0	60	64	8	10	1	0	83	9	0	0	0	0	9	0	6	0	0	0	6	158	
2026-05-20 16:30:00	1	0	54	0	0	55	67	5	6	1	0	79	10	0	0	0	0	10	0	7	0	0	0	7	151	
2026-05-20 16:45:00	3	0	48	0	0	51	58	5	5	4	0	72	9	0	0	0	1	9	0	4	0	0	1	4	136	609
2026-05-20 17:00:00	1	1	41	0	0	43	67	8	12	4	0	91	10	0	0	0	0	10	0	7	1	0	0	8	152	597
2026-05-20 17:15:00	1	0	32	0	0	33	60	8	2	1	0	71	5	0	0	0	0	5	0	8	0	0	0	8	117	556
2026-05-20 17:30:00	0	0	81	0	0	81	48	0	6	2	0	56	5	0	0	0	1	5	0	15	0	0	1	15	157	562
2026-05-20 17:45:00	0	2	54	0	0	56	55	6	9	2	0	72	3	0	0	0	0	3	0	2	0	0	0	2	133	559
2026-05-20 18:00:00	3	2	46	0	0	51	47	4	8	0	0	59	4	0	0	0	0	4	0	4	0	0	0	4	118	525
2026-05-20 18:15:00	0	1	42	0	0	43	32	9	17	2	0	60	6	0	0	0	0	6	0	5	1	0	0	6	115	523
2026-05-20 18:30:00	1	1	48	0	0	50	52	7	16	1	0	76	8	0	0	0	0	8	0	14	1	0	0	15	149	515
2026-05-20 18:45:00	1	2	42	0	0	45	23	11	26	0	0	60	9	0	0	0	2	9	0	9	0	0	2	9	123	505
Grand Total	23	18	1257	16	0	1314	1052	132	176	30	0	1390	182	21	0	0	5	203	1	126	5	0	5	132	**3039**	-
Approach%	1.8%	1.4%	95.7%	1.2%		-	75.7%	9.5%	12.7%	2.2%		-	89.7%	10.3%	0%	0%		-	0.8%	95.5%	3.8%	0%		-	**-**	-
Totals %	0.8%	0.6%	41.4%	0.5%		43.2%	34.6%	4.3%	5.8%	1%		45.7%	6%	0.7%	0%	0%		6.7%	0%	4.1%	0.2%	0%		4.3%	**-**	-
Heavy	5	10	115	13		-	102	64	116	0		-	151	19	0	0		-	0	54	2	0		-	**-**	-
Heavy %	21.7%	55.6%	9.1%	81.3%		-	9.7%	48.5%	65.9%	0%		-	83%	90.5%	0%	0%		-	0%	42.9%	40%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: 12434 DIXIE ROAD & DIXIE ROAD
Date: Wed, May 20, 2026 Deployment Lead: Constantinos Kotassidis

NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY
SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 07:00 AM - 08:00 AM **Weather: Broken Clouds (11 °C)**

Start Time	Southbound DIXIE ROAD						Northbound DIXIE ROAD						Eastbound UPS S DRIVEWAY						Southeastbound UPS N DRIVEWAY						Int. Total (15 min)
	Hard Right	Right	Thru	UTurn	Peds	Approach Total	Thru	Bear Left	Left	UTurn	Peds	Approach Total	Right	Left	Hard Left	UTurn	Peds	Approach Total	Hard Right	Bear Right	Hard Left	UTurn	Peds	Approach Total	
2026-05-20 07:00:00	1	2	66	0	0	69	34	6	5	0	0	45	6	0	0	0	0	6	0	5	2	0	0	7	127
2026-05-20 07:15:00	0	1	70	4	0	75	43	2	1	1	0	47	1	0	0	0	0	1	0	4	0	0	0	4	127
2026-05-20 07:30:00	1	0	71	0	0	72	39	1	1	2	0	43	2	0	0	0	1	2	0	4	0	0	1	4	121
2026-05-20 07:45:00	1	0	63	2	0	66	31	5	8	0	0	44	0	0	0	0	0	0	0	1	0	0	0	1	111
Grand Total	3	3	270	6	0	282	147	14	15	3	0	179	9	0	0	0	1	9	0	14	2	0	1	16	**486**
Approach%	1.1%	1.1%	95.7%	2.1%		-	82.1%	7.8%	8.4%	1.7%		-	100%	0%	0%	0%		-	0%	87.5%	12.5%	0%		-	**-**
Totals %	0.6%	0.6%	55.6%	1.2%		58%	30.2%	2.9%	3.1%	0.6%		36.8%	1.9%	0%	0%	0%		1.9%	0%	2.9%	0.4%	0%		3.3%	**-**
PHF	0.75	0.38	0.95	0.38		0.94	0.85	0.58	0.47	0.38		0.95	0.38	0	0	0		0.38	0	0.7	0.25	0		0.57	0.96
Heavy	0	1	20	4		25	26	1	5	0		32	6	0	0	0		6	0	13	2	0		15	78
Heavy %	0%	33.3%	7.4%	66.7%		8.9%	17.7%	7.1%	33.3%	0%		17.9%	66.7%	0%	0%	0%		66.7%	0%	92.9%	100%	0%		93.8%	16%
Lights	3	2	250	2		257	121	13	10	3		147	3	0	0	0		3	0	1	0	0		1	408
Lights %	100%	66.7%	92.6%	33.3%		91.1%	82.3%	92.9%	66.7%	100%		82.1%	33.3%	0%	0%	0%		33.3%	0%	7.1%	0%	0%		6.3%	84%
Single-Unit Trucks	0	0	7	4		11	19	0	2	0		21	4	0	0	0		4	0	3	0	0		3	39
Single-Unit Trucks %	0%	0%	2.6%	66.7%		3.9%	12.9%	0%	13.3%	0%		11.7%	44.4%	0%	0%	0%		44.4%	0%	21.4%	0%	0%		18.8%	8%
Buses	0	0	6	0		6	2	0	0	0		2	0	0	0	0		0	0	0	0	0		0	8
Buses %	0%	0%	2.2%	0%		2.1%	1.4%	0%	0%	0%		1.1%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	1.6%
Articulated Trucks	0	1	7	0		8	5	1	3	0		9	2	0	0	0		2	0	10	2	0		12	31
Articulated Trucks %	0%	33.3%	2.6%	0%		2.8%	3.4%	7.1%	20%	0%		5%	22.2%	0%	0%	0%		22.2%	0%	71.4%	100%	0%		75%	6.4%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	50%		-	-	-	-	50%		**-**

Spectrum

Turning Movement Count
Location Name: 12434 DIXIE ROAD & DIXIE ROAD
Date: Wed, May 20, 2026 Deployment Lead: Constantinos Kotassidis

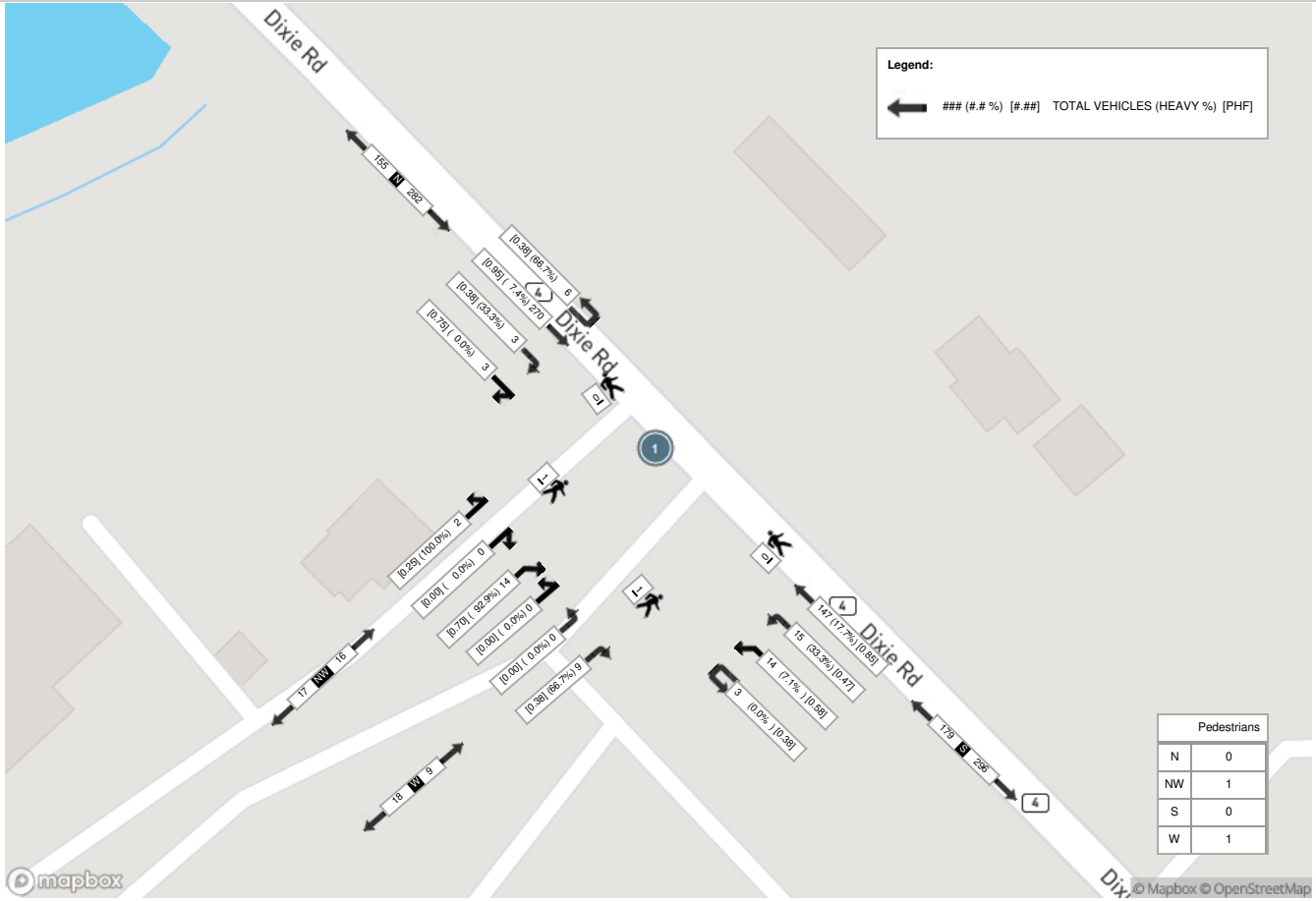
NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY
SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 04:00 PM - 05:00 PM **Weather: Broken Clouds (17 °C)**

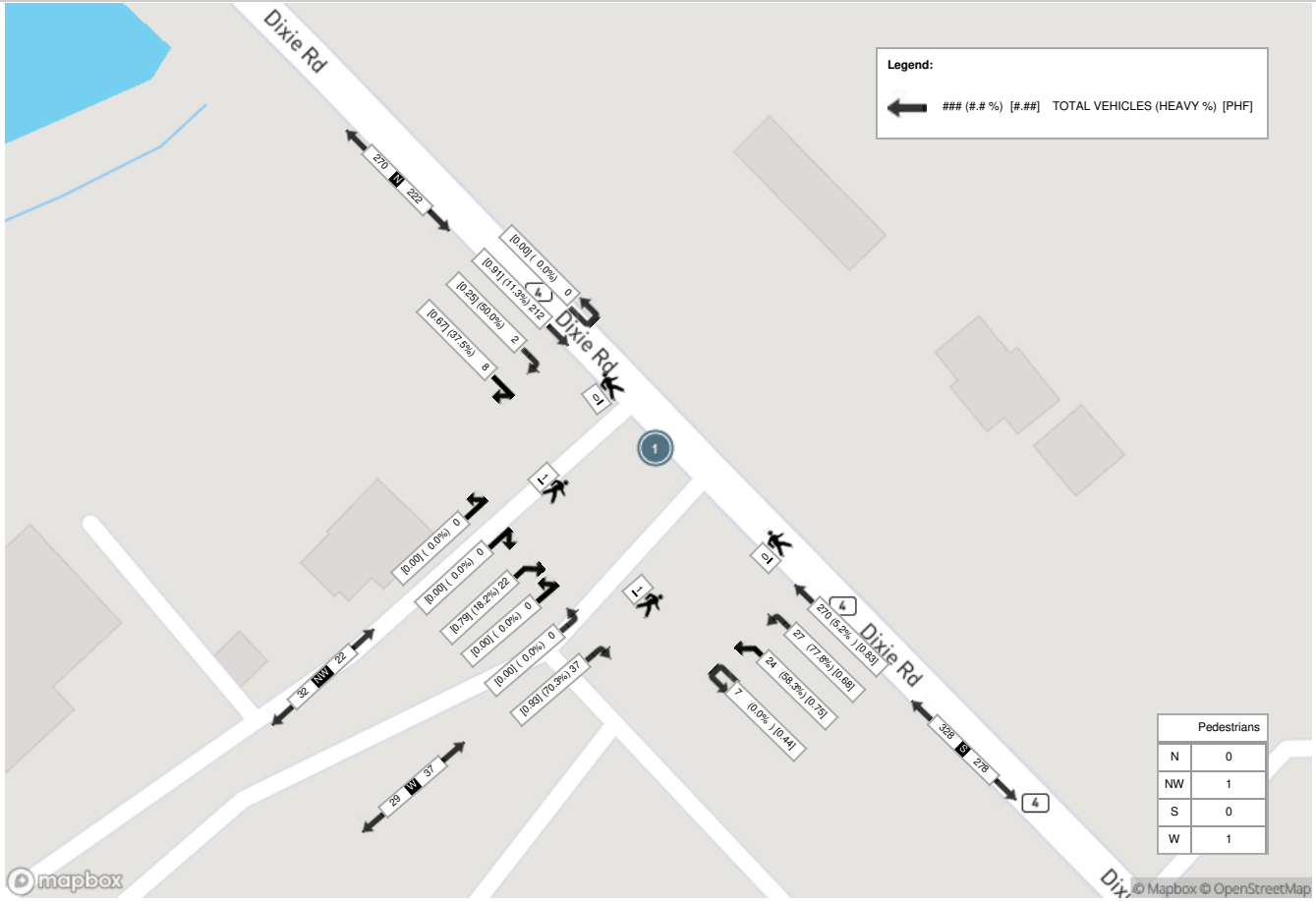
Start Time	Southbound DIXIE ROAD						Northbound DIXIE ROAD						Eastbound UPS S DRIVEWAY						Southeastbound UPS N DRIVEWAY						Int. Total (15 min)
	Hard Right	Right	Thru	UTurn	Peds	Approach Total	Thru	Bear Left	Left	UTurn	Peds	Approach Total	Right	Left	Hard Left	UTurn	Peds	Approach Total	Hard Right	Bear Right	Hard Left	UTurn	Peds	Approach Total	
2026-05-20 16:00:00	2	2	52	0	0	56	81	6	6	1	0	94	9	0	0	0	0	9	0	5	0	0	0	5	164
2026-05-20 16:15:00	2	0	58	0	0	60	64	8	10	1	0	83	9	0	0	0	0	9	0	6	0	0	0	6	158
2026-05-20 16:30:00	1	0	54	0	0	55	67	5	6	1	0	79	10	0	0	0	0	10	0	7	0	0	0	7	151
2026-05-20 16:45:00	3	0	48	0	0	51	58	5	5	4	0	72	9	0	0	0	1	9	0	4	0	0	1	4	136
Grand Total	8	2	212	0	0	222	270	24	27	7	0	328	37	0	0	0	1	37	0	22	0	0	1	22	**609**
Approach%	3.6%	0.9%	95.5%	0%		-	82.3%	7.3%	8.2%	2.1%		-	100%	0%	0%	0%		-	0%	100%	0%	0%		-	**-**
Totals %	1.3%	0.3%	34.8%	0%		36.5%	44.3%	3.9%	4.4%	1.1%		53.9%	6.1%	0%	0%	0%		6.1%	0%	3.6%	0%	0%		3.6%	**-**
PHF	0.67	0.25	0.91	0		0.93	0.83	0.75	0.68	0.44		0.87	0.93	0	0	0		0.93	0	0.79	0	0		0.79	0.93
Heavy	3	1	24	0		28	14	14	21	0		49	26	0	0	0		26	0	4	0	0		4	107
Heavy %	37.5%	50%	11.3%	0%		12.6%	5.2%	58.3%	77.8%	0%		14.9%	70.3%	0%	0%	0%		70.3%	0%	18.2%	0%	0%		18.2%	17.6%
Lights	5	1	188	0		194	256	10	6	7		279	11	0	0	0		11	0	18	0	0		18	502
Lights %	62.5%	50%	88.7%	0%		87.4%	94.8%	41.7%	22.2%	100%		85.1%	29.7%	0%	0%	0%		29.7%	0%	81.8%	0%	0%		81.8%	82.4%
Single-Unit Trucks	2	0	15	0		17	7	3	6	0		16	11	0	0	0		11	0	1	0	0		1	45
Single-Unit Trucks %	25%	0%	7.1%	0%		7.7%	2.6%	12.5%	22.2%	0%		4.9%	29.7%	0%	0%	0%		29.7%	0%	4.5%	0%	0%		4.5%	7.4%
Buses	0	0	3	0		3	3	0	0	0		3	0	0	0	0		0	0	0	0	0		0	6
Buses %	0%	0%	1.4%	0%		1.4%	1.1%	0%	0%	0%		0.9%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	1%
Articulated Trucks	1	1	6	0		8	4	11	15	0		30	15	0	0	0		15	0	3	0	0		3	56
Articulated Trucks %	12.5%	50%	2.8%	0%		3.6%	1.5%	45.8%	55.6%	0%		9.1%	40.5%	0%	0%	0%		40.5%	0%	13.6%	0%	0%		13.6%	9.2%
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	**-**
Pedestrians%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	50%		-	-	-	-	50%		**-**

NexTrans
SUITE 201 520 INDUSTRIAL PARKWAY SOUTH
AURORA ONTARIO, L4G 6W8
CANADA

Peak Hour: 07:00 AM - 08:00 AM **Weather: Broken Clouds (11 °C)**



Peak Hour: 04:00 PM - 05:00 PM **Weather: Broken Clouds (17 °C)**



REGIONAL MUNICIPALITY OF PEEL

Traffic Signal Timing Parameters

Database Date	**Field Current 2026-05-27**	**Prepared Date**	**May 27, 2026**
Database Rev	**Field Current 2026-05-27**	**Completed By**	**AA**
Timing Card / Field rev		**Checked By**	**MY**

Location — **Dixie Road at Mayfield Road**

Phase #	Street Name - Direction	Vehicle Minimum (s)	Pedestrian Minimum (s)		Amber (s)	All Red (s)	TIME PERIOD (s)		
			WALK	FDWALK			AM SPLITS	OFF (Green Time Only)	PM SPLITS
1	Mayfield Rd - WB Prot. Perm. LT.	5.0	-	-	3.0	0.0	10.0	10.0	10.0
2	Mayfield Rd - EB	12.0	12.0	30.0	4.6	2.3	57.0	32.0	57.0
3	Not in use	-	-	-	-	-	-		-
4	Dixie Rd - NB	8.0	12.0	33.0	4.6	2.3	53.0	30.0	53.0
5	Mayfield Rd - EB Prot. Perm. LT.	5.0	-	-	3.0	0.0	15.0	10.0	20.0
6	Mayfield Rd - WB	12.0	12.0	30.0	4.6	2.3	52.0	32.0	47.0
7	Not in use	-	-	-	-	-	-		-
8	Dixie Rd - SB	8.0	12.0	33.0	4.6	2.3	53.0	30.0	53.0

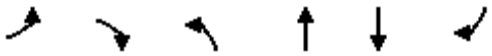
System Control
Yes

Semi-Actuated Mode
Yes

TIME (M-F)	PEAK	CYCLE LENGTH (s)	OFFSET (s)
7:00 - 9:00	AM	120	44
	OFF		
15:00 - 18:00	PM	120	32

APPENDIX D:

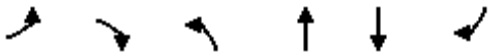
Existing Traffic Assessment



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	14	14	147	270	3
Future Volume (Veh/h)	2	14	14	147	270	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	2	15	15	153	281	3
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	466	284	285			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	466	284	285			
tC, single (s)	7.4	7.1	4.2			
tC, 2 stage (s)						
tF (s)	4.4	4.1	2.3			
p0 queue free %	100	97	99			
cM capacity (veh/h)	406	581	1248			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	17	168	284
Volume Left	2	15	0
Volume Right	15	0	3
cSH	553	1248	1700
Volume to Capacity	0.03	0.01	0.17
Queue Length 95th (m)	0.7	0.3	0.0
Control Delay (s)	11.7	0.8	0.0
Lane LOS	B	A	
Approach Delay (s)	11.7	0.8	0.0
Approach LOS	B		

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	29.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	9	15	147	270	3
Future Volume (Veh/h)	0	9	15	147	270	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	9	16	153	281	3
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					65	
pX, platoon unblocked						
vC, conflicting volume	468	284	285			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	468	284	285			
tC, single (s)	6.4	6.9	4.4			
tC, 2 stage (s)						
tF (s)	3.5	3.9	2.5			
p0 queue free %	100	99	99			
cM capacity (veh/h)	548	623	1118			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	9	16	153	284
Volume Left	0	16	0	0
Volume Right	9	0	0	3
cSH	623	1118	1700	1700
Volume to Capacity	0.01	0.01	0.09	0.17
Queue Length 95th (m)	0.3	0.3	0.0	0.0
Control Delay (s)	10.9	8.3	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	10.9	0.8		0.0
Approach LOS	B			

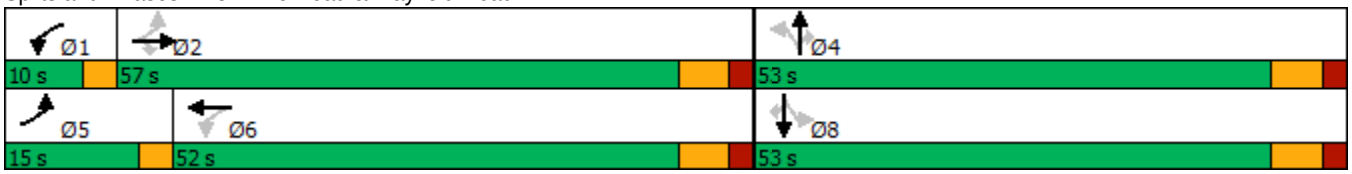
Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	218	1734	225	78	804	127	82	45	39	155	141
Future Volume (vph)	218	1734	225	78	804	127	82	45	39	155	141
Lane Group Flow (vph)	227	1806	234	81	871	132	85	47	41	161	147
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	12.0	12.0	5.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	48.9	48.9	9.5	48.9	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (s)	15.0	57.0	57.0	10.0	52.0	53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	12.5%	47.5%	47.5%	8.3%	43.3%	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	3.0	4.6	4.6	3.0	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	3.0	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	Max	Max	None	Max	Max	Max	Max	Max	Max	Max
v/c Ratio	0.75	0.86	0.30	0.58	0.51	0.29	0.13	0.09	0.10	0.26	0.25
Control Delay	33.0	36.3	5.9	34.2	30.0	27.9	24.8	0.8	24.8	26.8	5.0
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	33.0	36.3	5.9	34.2	30.0	27.9	24.8	0.8	24.8	26.8	5.0
Queue Length 50th (m)	28.3	142.1	5.0	9.1	57.0	21.3	12.9	0.0	6.1	25.7	0.0
Queue Length 95th (m)	#50.9	163.9	20.5	#22.7	70.0	37.1	23.8	1.2	14.0	42.1	12.7
Internal Link Dist (m)		1729.2			1640.6		318.9			1288.8	
Turn Bay Length (m)	145.0		75.0	65.0		75.0		60.0	30.0		135.0
Base Capacity (vph)	304	2105	768	142	1704	451	631	542	395	611	594
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	0.75	0.86	0.30	0.57	0.51	0.29	0.13	0.09	0.10	0.26	0.25

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 119.8
Natural Cycle: 115
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

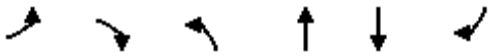
Splits and Phases: 3: Dixie Road & Mayfield Road



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	218	1734	225	78	804	32	127	82	45	39	155	141
Future Volume (vph)	218	1734	225	78	804	32	127	82	45	39	155	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9	6.9	3.0	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)	1472	4856	1513	1484	4521		1717	1642	1266	1389	1588	1307
Flt Permitted	0.24	1.00	1.00	0.09	1.00		0.65	1.00	1.00	0.70	1.00	1.00
Satd. Flow (perm)	364	4856	1513	136	4521		1174	1642	1266	1026	1588	1307
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	227	1806	234	81	838	33	132	85	47	41	161	147
RTOR Reduction (vph)	0	0	113	0	4	0	0	0	29	0	0	91
Lane Group Flow (vph)	227	1806	121	81	867	0	132	85	18	41	161	56
Confl. Peds. (#/hr)	1		5	5		1	4		4	4		4
Heavy Vehicles (%)	24%	8%	5%	23%	15%	22%	6%	17%	27%	31%	21%	23%
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)	60.6	52.0	52.0	51.4	45.8		46.1	46.1	46.1	46.1	46.1	46.1
Effective Green, g (s)	60.6	52.0	52.0	51.4	45.8		46.1	46.1	46.1	46.1	46.1	46.1
Actuated g/C Ratio	0.50	0.43	0.43	0.43	0.38		0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	3.0	6.9	6.9	3.0	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)	291	2095	652	120	1718		449	628	484	392	607	500
v/s Ratio Prot	c0.08	c0.37		0.03	0.19			0.05			0.10	
v/s Ratio Perm	0.31		0.08	0.25			c0.11		0.01	0.04		0.04
v/c Ratio	0.78	0.86	0.19	0.68	0.50		0.29	0.14	0.04	0.10	0.27	0.11
Uniform Delay, d1	18.8	31.0	21.2	24.9	28.7		25.9	24.2	23.3	23.9	25.6	24.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.7	5.0	0.6	14.0	1.1		1.7	0.4	0.1	0.5	1.1	0.5
Delay (s)	31.4	36.0	21.8	38.9	29.7		27.5	24.7	23.4	24.5	26.6	24.5
Level of Service	C	D	C	D	C		C	C	C	C	C	C
Approach Delay (s)		34.1			30.5			25.9			25.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	120.5	Sum of lost time (s)	16.8
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		

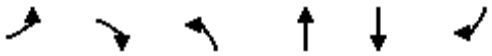
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	24	270	212	8
Future Volume (Veh/h)	0	22	24	270	212	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	24	26	290	228	9
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	576	234	238			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576	234	238			
tC, single (s)	6.4	6.2	4.7			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.7			
p0 queue free %	100	97	98			
cM capacity (veh/h)	470	810	1060			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	24	316	237
Volume Left	0	26	0
Volume Right	24	0	9
cSH	810	1060	1700
Volume to Capacity	0.03	0.02	0.14
Queue Length 95th (m)	0.7	0.6	0.0
Control Delay (s)	9.6	0.9	0.0
Lane LOS	A	A	
Approach Delay (s)	9.6	0.9	0.0
Approach LOS	A		

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	37	27	270	212	2
Future Volume (Veh/h)	0	37	27	270	212	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	40	29	290	228	2
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)					65	
pX, platoon unblocked						
vC, conflicting volume	578	230	231			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	578	230	231			
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	95	98			
cM capacity (veh/h)	470	813	1347			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	40	29	290	230
Volume Left	0	29	0	0
Volume Right	40	0	0	2
cSH	813	1347	1700	1700
Volume to Capacity	0.05	0.02	0.17	0.14
Queue Length 95th (m)	1.2	0.5	0.0	0.0
Control Delay (s)	9.7	7.7	0.0	0.0
Lane LOS	A	A		
Approach Delay (s)	9.7	0.7		0.0
Approach LOS	A			

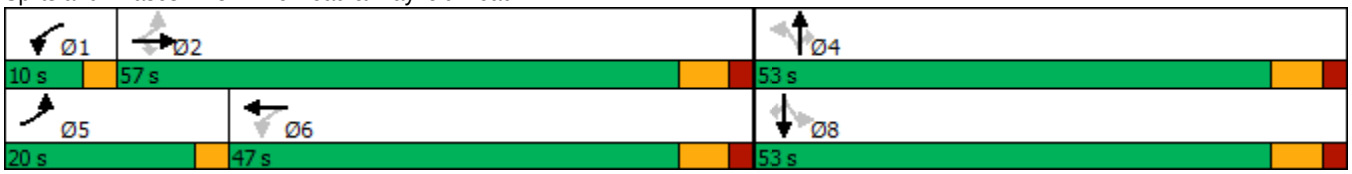
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

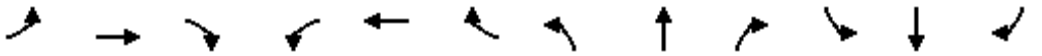
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	224	1302	177	50	1232	213	145	74	63	111	262
Future Volume (vph)	224	1302	177	50	1232	213	145	74	63	111	262
Lane Group Flow (vph)	229	1329	181	51	1315	217	148	76	64	113	267
Turn Type	pm+pt	NA	Perm	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	12.0	12.0	5.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	48.9	48.9	9.5	48.9	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (s)	20.0	57.0	57.0	10.0	47.0	53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	16.7%	47.5%	47.5%	8.3%	39.2%	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	3.0	4.6	4.6	3.0	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	3.0	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	Max	Max	None	Max	Max	Max	Max	Max	Max	Max
v/c Ratio	0.87	0.64	0.24	0.27	0.79	0.45	0.21	0.12	0.15	0.16	0.39
Control Delay	60.1	28.5	3.9	17.9	39.6	31.8	26.4	4.1	26.2	25.7	4.8
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	60.1	28.5	3.9	17.9	39.6	31.8	26.4	4.1	26.2	25.7	4.8
Queue Length 50th (m)	38.2	91.0	0.0	5.6	103.2	38.6	23.7	0.0	10.0	17.8	0.0
Queue Length 95th (m)	#79.6	107.1	12.9	11.7	121.5	61.6	38.9	7.5	20.2	30.7	16.8
Internal Link Dist (m)		1729.2			1640.6		318.9			1288.8	
Turn Bay Length (m)	145.0		75.0	65.0		75.0		60.0	30.0		135.0
Base Capacity (vph)	278	2090	751	196	1665	484	712	610	423	705	683
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	0.82	0.64	0.24	0.26	0.79	0.45	0.21	0.12	0.15	0.16	0.39

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120.7
Natural Cycle: 115
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	224	1302	177	50	1232	57	213	145	74	63	111	262
Future Volume (vph)	224	1302	177	50	1232	57	213	145	74	63	111	262
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9	6.9	3.0	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		0.99	1.00	1.00	0.99	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)	1560	4768	1481	1629	4775		1761	1865	1451	1587	1847	1357
Flt Permitted	0.09	1.00	1.00	0.16	1.00		0.68	1.00	1.00	0.66	1.00	1.00
Satd. Flow (perm)	148	4768	1481	269	4775		1268	1865	1451	1107	1847	1357
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	229	1329	181	51	1257	58	217	148	76	64	113	267
RTOR Reduction (vph)	0	0	102	0	4	0	0	0	47	0	0	166
Lane Group Flow (vph)	229	1329	79	51	1311	0	217	148	29	64	113	101
Confl. Peds. (#/hr)	5		13	13		5	9		13	13		9
Heavy Vehicles (%)	17%	10%	6%	12%	8%	30%	3%	3%	10%	14%	4%	18%
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)	61.4	52.9	52.9	48.2	42.7		46.1	46.1	46.1	46.1	46.1	46.1
Effective Green, g (s)	61.4	52.9	52.9	48.2	42.7		46.1	46.1	46.1	46.1	46.1	46.1
Actuated g/C Ratio	0.51	0.44	0.44	0.40	0.35		0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	3.0	6.9	6.9	3.0	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)	257	2079	645	168	1680		481	708	551	420	701	515
v/s Ratio Prot	c0.12	0.28		0.01	0.27			0.08			0.06	
v/s Ratio Perm	c0.33		0.05	0.11			c0.17		0.02	0.06		0.07
v/c Ratio	0.89	0.64	0.12	0.30	0.78		0.45	0.21	0.05	0.15	0.16	0.20
Uniform Delay, d1	32.9	26.7	20.4	23.1	35.1		28.1	25.3	23.8	24.7	24.8	25.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	29.5	1.5	0.4	1.0	3.7		3.0	0.7	0.2	0.8	0.5	0.9
Delay (s)	62.4	28.3	20.8	24.1	38.8		31.2	26.0	24.0	25.5	25.3	26.1
Level of Service	E	C	C	C	D		C	C	C	C	C	C
Approach Delay (s)		32.0			38.2			28.2			25.8	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	121.3	Sum of lost time (s)	16.8
Intersection Capacity Utilization	114.6%	ICU Level of Service	H
Analysis Period (min)	15		

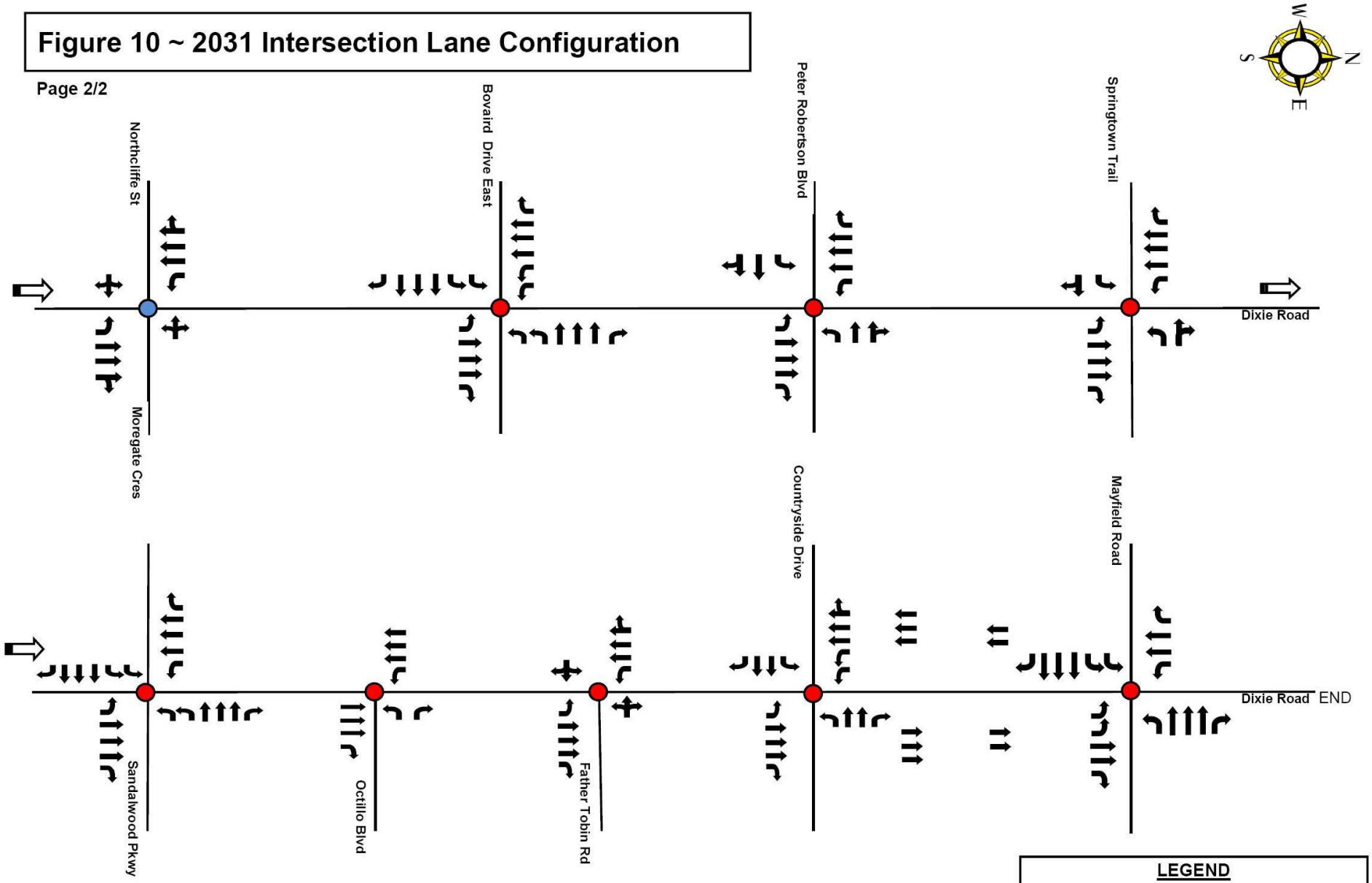
c Critical Lane Group

APPENDIX E:

Dixie Road Class EA Study Traffic Report (2011) Excerpts

Figure 10 ~ 2031 Intersection Lane Configuration

Page 2/2



AECOM

Not to Scale

APPENDIX F:

Background Study Site Traffic Excerpts

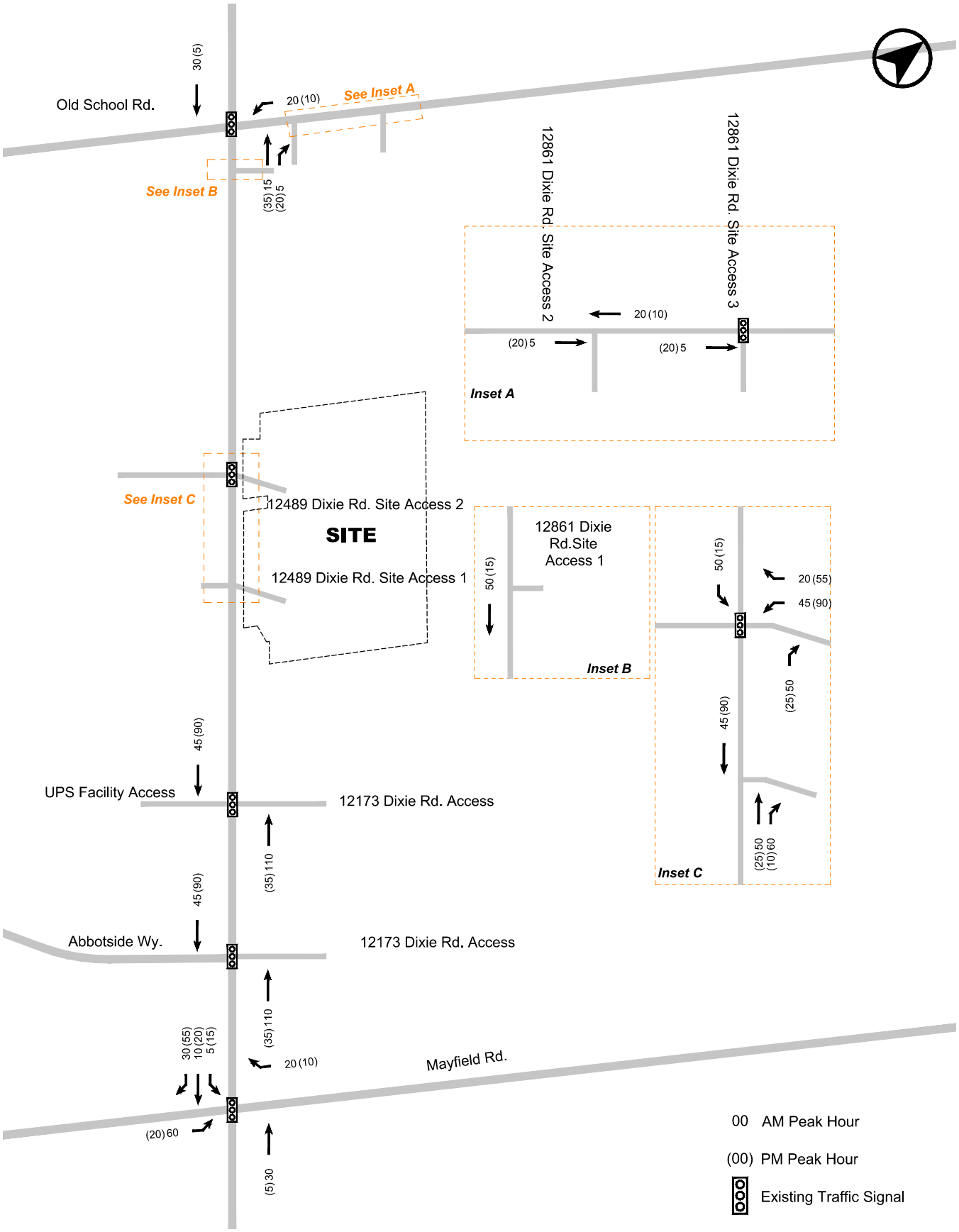


FIGURE 13 TOTAL SITE TRAFFIC VOLUMES

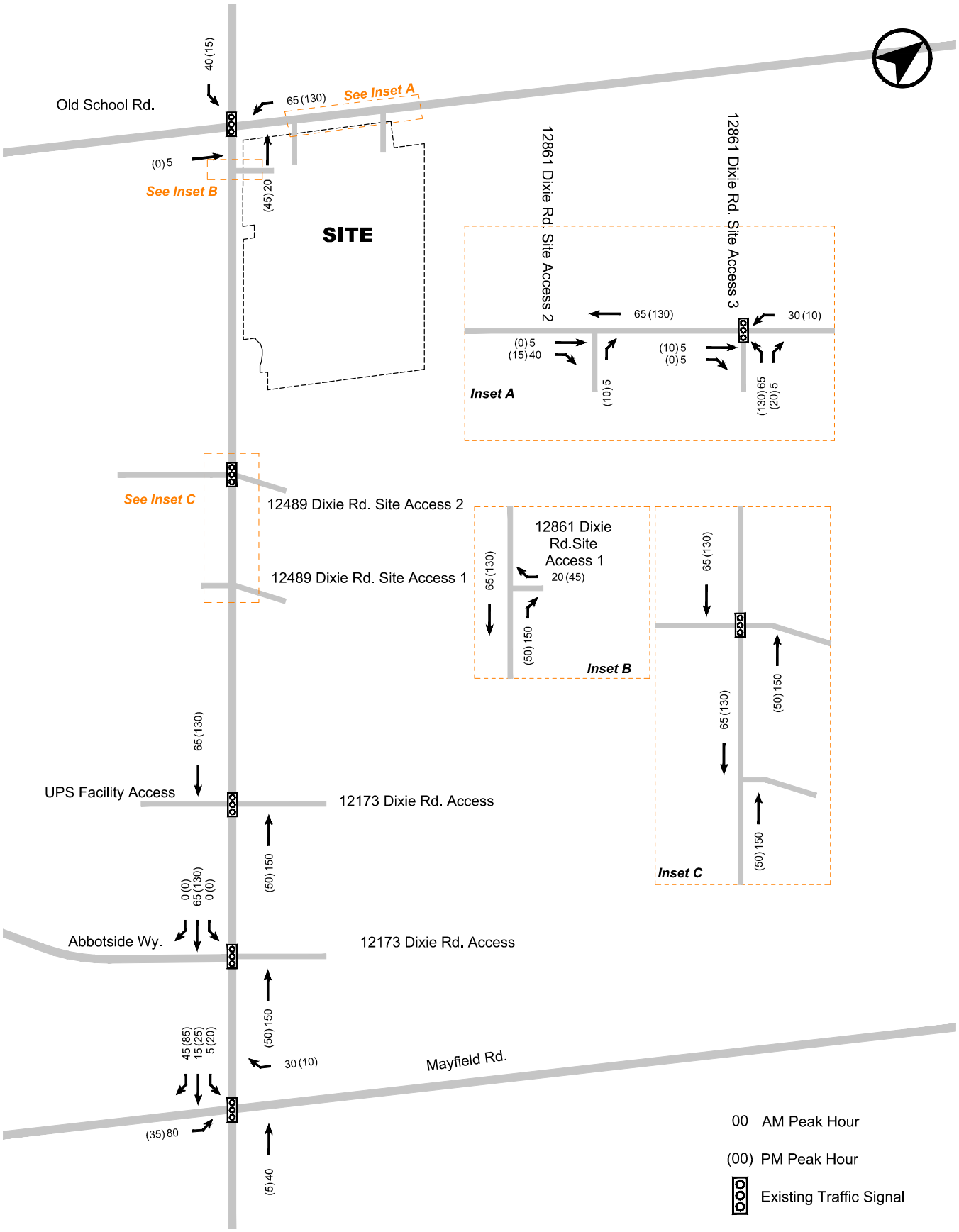


FIGURE 13 TOTAL SITE TRAFFIC VOLUMES

Figure 4-3: Total Site Generated Peak Hour Traffic Volumes

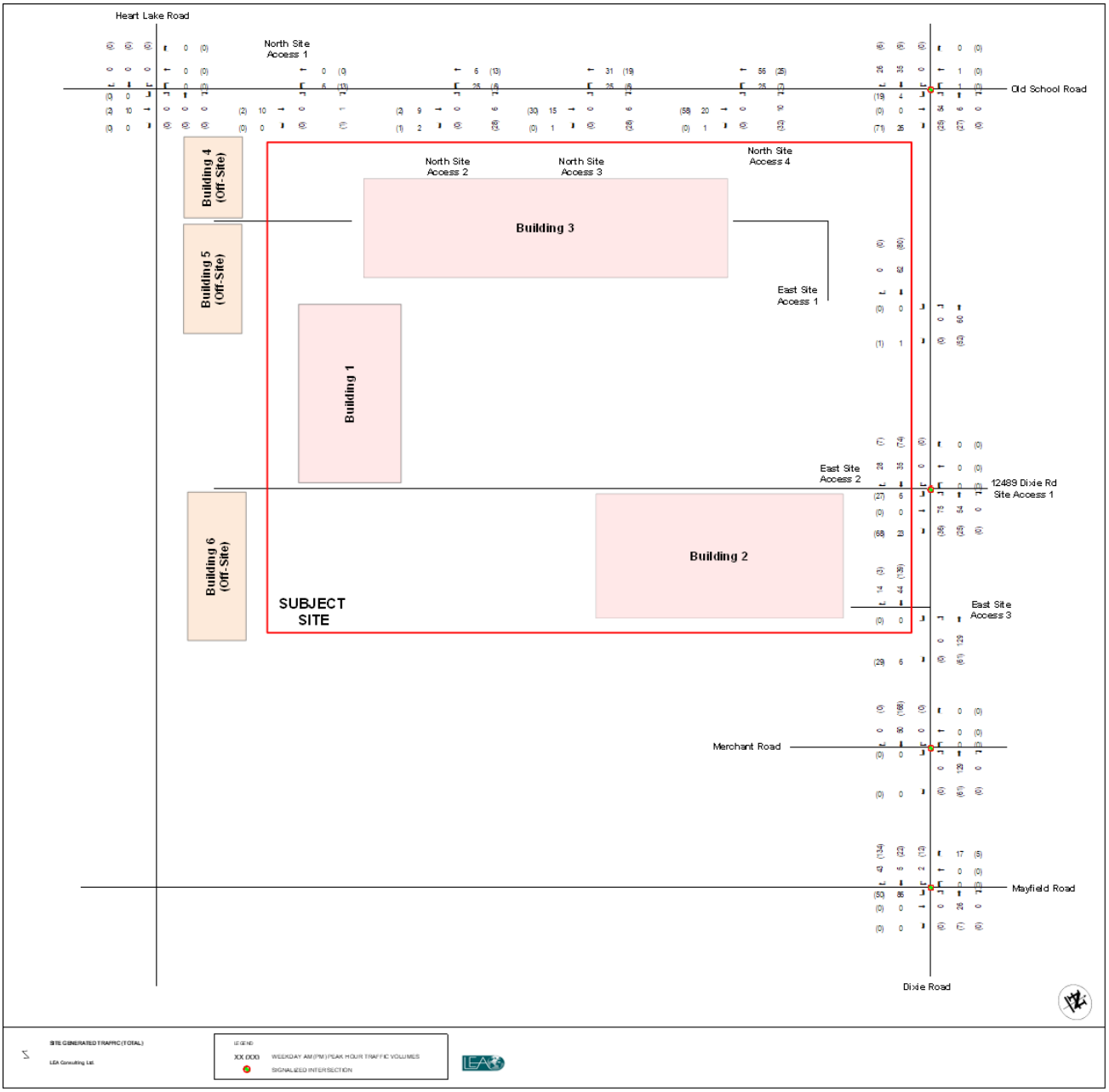
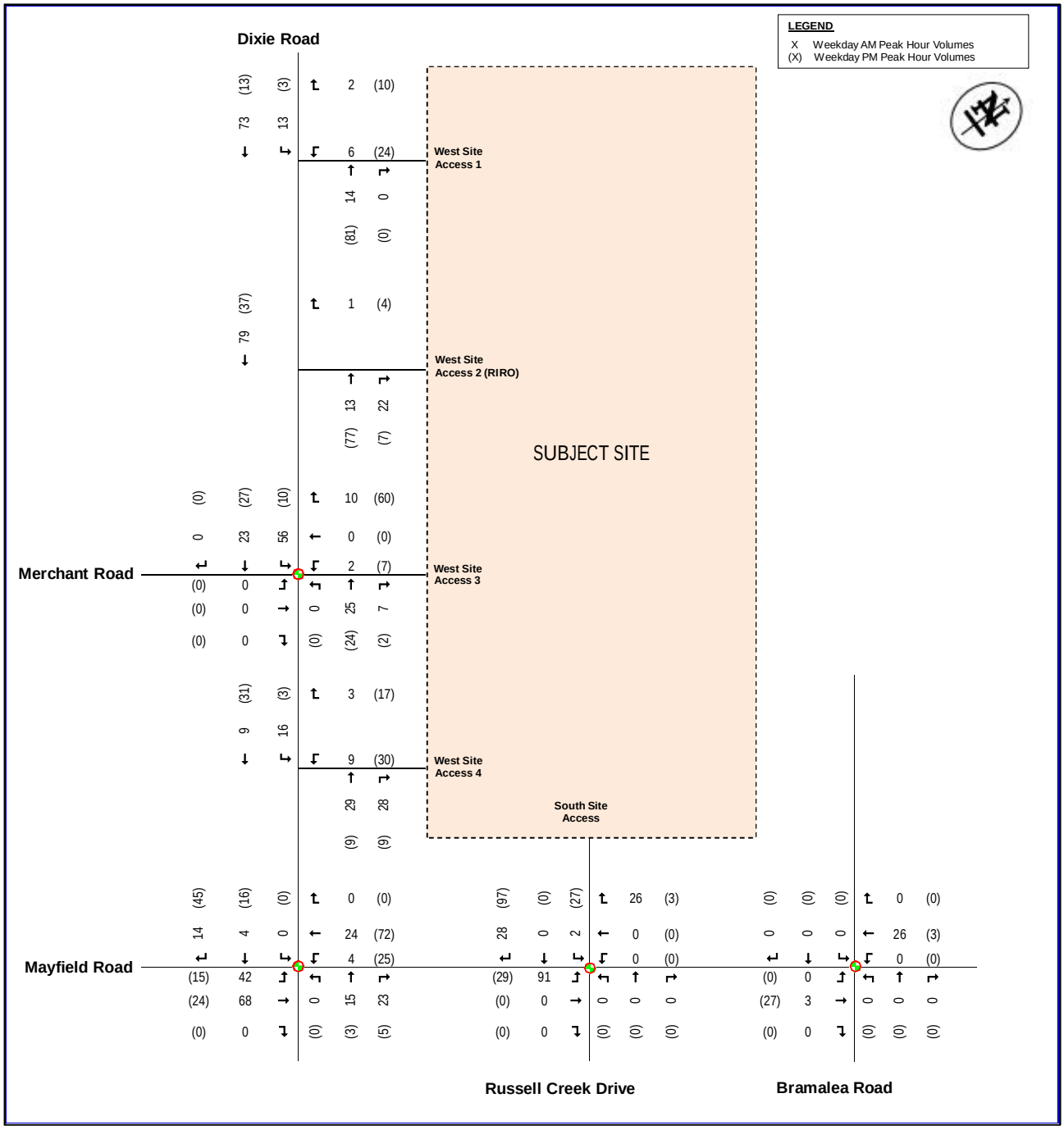
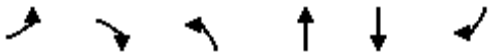


Figure 4-1: Employee Vehicle Site Generated Peak Hour Traffic Volumes



APPENDIX G:

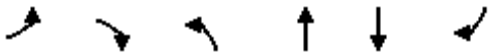
Interim 2033 Future Background Traffic Calculations



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	14	14	574	556	3
Future Volume (Veh/h)	2	14	14	574	556	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	2	15	15	598	579	3
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1210	582	583			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1210	582	583			
tC, single (s)	7.4	7.1	4.2			
tC, 2 stage (s)						
tF (s)	4.4	4.1	2.3			
p0 queue free %	98	96	98			
cM capacity (veh/h)	128	377	966			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	17	613	582
Volume Left	2	15	0
Volume Right	15	0	3
cSH	307	966	1700
Volume to Capacity	0.06	0.02	0.34
Queue Length 95th (m)	1.3	0.4	0.0
Control Delay (s)	17.4	0.4	0.0
Lane LOS	C	A	
Approach Delay (s)	17.4	0.4	0.0
Approach LOS	C		

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	51.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	9	15	574	556	3
Future Volume (Veh/h)	0	9	15	574	556	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	9	16	598	579	3
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1212	582	583			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1212	582	583			
tC, single (s)	6.4	6.9	4.4			
tC, 2 stage (s)						
tF (s)	3.5	3.9	2.5			
p0 queue free %	100	98	98			
cM capacity (veh/h)	199	410	855			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	9	16	598	582
Volume Left	0	16	0	0
Volume Right	9	0	0	3
cSH	410	855	1700	1700
Volume to Capacity	0.02	0.02	0.35	0.34
Queue Length 95th (m)	0.5	0.4	0.0	0.0
Control Delay (s)	14.0	9.3	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	14.0	0.2		0.0
Approach LOS	B			

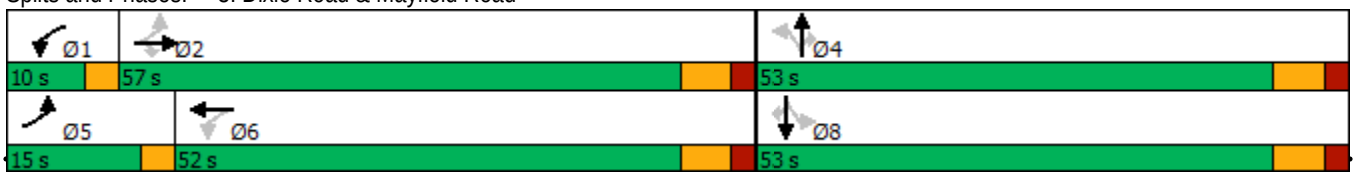
Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	40.2%	ICU Level of Service	A
Analysis Period (min)	15		

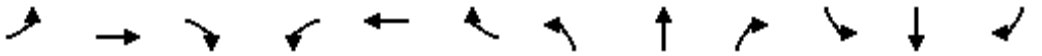
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	486	2060	225	82	948	127	205	68	51	212	273
Future Volume (vph)	486	2060	225	82	948	127	205	68	51	212	273
Lane Group Flow (vph)	506	2146	234	85	1091	132	214	71	53	221	284
Turn Type	pm+pt	NA	Perm	pm+pt	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	12.0	12.0	5.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	48.9	48.9	9.5	48.9	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (s)	15.0	57.0	57.0	10.0	52.0	53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	12.5%	47.5%	47.5%	8.3%	43.3%	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	3.0	4.6	4.6	3.0	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	3.0	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	Max	Max	None	Max	Max	Max	Max	Max	Max	Max
v/c Ratio	2.00	1.06	0.32	0.60	0.65	0.33	0.34	0.13	0.16	0.36	0.45
Control Delay	483.0	71.1	8.4	35.8	32.5	29.0	28.1	3.5	26.1	28.6	10.2
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	483.0	71.1	8.4	35.8	32.5	29.0	28.1	3.5	26.1	28.6	10.2
Queue Length 50th (m)	~160.9	~203.2	9.5	9.5	75.6	21.7	35.3	0.0	8.1	36.8	11.7
Queue Length 95th (m)	#226.6	#232.1	26.4	#24.6	91.1	38.2	55.0	6.2	17.5	57.5	34.1
Internal Link Dist (m)		1729.2			1640.6		318.9			1288.8	
Turn Bay Length (m)	145.0		75.0	65.0		75.0		60.0	30.0		135.0
Base Capacity (vph)	253	2032	729	143	1687	398	630	541	327	610	629
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	2.00	1.06	0.32	0.59	0.65	0.33	0.34	0.13	0.16	0.36	0.45

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Natural Cycle: 145
Control Type: Semi Act-Uncoord
~ 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: 3: Dixie Road & Mayfield Road

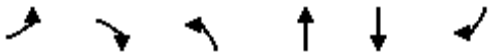




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	486	2060	225	82	948	99	127	205	68	51	212	273
Future Volume (vph)	486	2060	225	82	948	99	127	205	68	51	212	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9	6.9	3.0	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)	1472	4856	1513	1484	4461		1718	1642	1266	1390	1588	1308
Flt Permitted	0.16	1.00	1.00	0.09	1.00		0.57	1.00	1.00	0.58	1.00	1.00
Satd. Flow (perm)	246	4856	1513	139	4461		1038	1642	1266	852	1588	1308
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	506	2146	234	85	988	103	132	214	71	53	221	284
RTOR Reduction (vph)	0	0	97	0	11	0	0	0	44	0	0	127
Lane Group Flow (vph)	506	2146	137	85	1080	0	132	214	27	53	221	157
Confl. Peds. (#/hr)	1		5	5		1	4		4	4		4
Heavy Vehicles (%)	24%	8%	5%	23%	15%	22%	6%	17%	27%	31%	21%	23%
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)	60.1	50.2	50.2	52.0	45.1		46.1	46.1	46.1	46.1	46.1	46.1
Effective Green, g (s)	60.1	50.2	50.2	52.0	45.1		46.1	46.1	46.1	46.1	46.1	46.1
Actuated g/C Ratio	0.50	0.42	0.42	0.43	0.38		0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	3.0	6.9	6.9	3.0	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)	245	2031	632	137	1676		398	630	486	327	610	502
v/s Ratio Prot	c0.21	0.44		0.04	0.24			0.13			c0.14	
v/s Ratio Perm	c0.82		0.09	0.23			0.13		0.02	0.06		0.12
v/c Ratio	2.07	1.06	0.22	0.62	0.64		0.33	0.34	0.06	0.16	0.36	0.31
Uniform Delay, d1	21.4	34.9	22.3	27.9	30.8		26.1	26.2	23.3	24.3	26.4	25.9
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	493.2	36.9	0.8	8.4	1.9		2.2	1.5	0.2	1.1	1.7	1.6
Delay (s)	514.6	71.8	23.1	36.3	32.8		28.3	27.6	23.5	25.3	28.1	27.5
Level of Service	F	E	C	D	C		C	C	C	C	C	C
Approach Delay (s)		145.5			33.0			27.1			27.5	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	96.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.35		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	127.0%	ICU Level of Service	H
Analysis Period (min)	15		

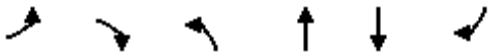
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	24	547	648	8
Future Volume (Veh/h)	0	22	24	547	648	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	24	26	588	697	9
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1342	702	707			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1342	702	707			
tC, single (s)	6.4	6.2	4.7			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.7			
p0 queue free %	100	95	96			
cM capacity (veh/h)	163	441	680			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	24	614	706
Volume Left	0	26	0
Volume Right	24	0	9
cSH	441	680	1700
Volume to Capacity	0.05	0.04	0.42
Queue Length 95th (m)	1.3	0.9	0.0
Control Delay (s)	13.6	1.0	0.0
Lane LOS	B	A	
Approach Delay (s)	13.6	1.0	0.0
Approach LOS	B		

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization		58.3%	ICU Level of Service
Analysis Period (min)		15	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	37	27	547	648	2
Future Volume (Veh/h)	0	37	27	547	648	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	40	29	588	697	2
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1345	699	700			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1345	699	700			
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	91	97			
cM capacity (veh/h)	163	443	905			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1
Volume Total	40	29	588	699
Volume Left	0	29	0	0
Volume Right	40	0	0	2
cSH	443	905	1700	1700
Volume to Capacity	0.09	0.03	0.35	0.41
Queue Length 95th (m)	2.3	0.8	0.0	0.0
Control Delay (s)	13.9	9.1	0.0	0.0
Lane LOS	B	A		
Approach Delay (s)	13.9	0.4		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	344	1520	177	75	1487	213	187	79	110	211	581
Future Volume (vph)	344	1520	177	75	1487	213	187	79	110	211	581
Lane Group Flow (vph)	351	1551	181	77	1601	217	191	81	112	215	593
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	12.0	12.0	5.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	48.9	48.9	9.5	48.9	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (s)	20.0	57.0	57.0	10.0	47.0	53.0	53.0	53.0	53.0	53.0	53.0
Total Split (%)	16.7%	47.5%	47.5%	8.3%	39.2%	44.2%	44.2%	44.2%	44.2%	44.2%	44.2%
Yellow Time (s)	3.0	4.6	4.6	3.0	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	3.0	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	Max	Max	None	Max	Max	Max	Max	Max	Max	Max
v/c Ratio	1.28	0.73	0.24	0.49	0.97	0.54	0.27	0.13	0.29	0.31	0.86
Control Delay	180.4	31.1	4.1	25.9	56.1	35.6	27.6	4.7	29.2	28.2	31.8
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	180.4	31.1	4.1	25.9	56.1	35.6	27.6	4.7	29.2	28.2	31.8
Queue Length 50th (m)	~92.0	113.6	0.4	8.5	137.1	40.1	31.3	0.0	18.6	35.8	74.6
Queue Length 95th (m)	#150.2	132.0	13.4	16.2	#171.4	65.5	49.4	8.4	33.6	55.1	#146.7
Internal Link Dist (m)		1729.2			1640.6		318.9			1288.8	
Turn Bay Length (m)	145.0		75.0	65.0		75.0		60.0	30.0		135.0
Base Capacity (vph)	275	2111	755	161	1645	404	705	605	383	698	689
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	1.28	0.73	0.24	0.48	0.97	0.54	0.27	0.13	0.29	0.31	0.86

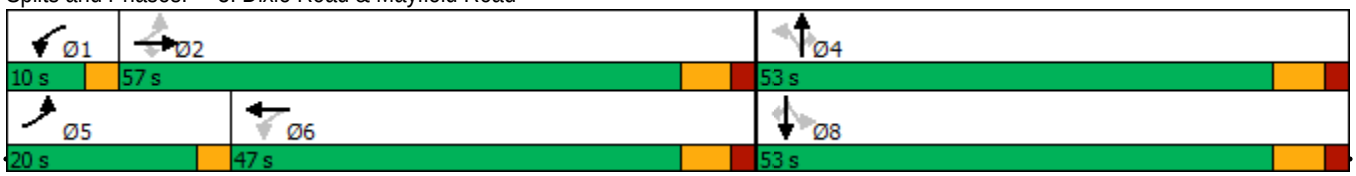
Intersection Summary

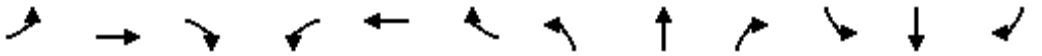
Cycle Length: 120
Actuated Cycle Length: 121.9
Natural Cycle: 125
Control Type: Semi Act-Uncoord

~ 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: 3: Dixie Road & Mayfield Road





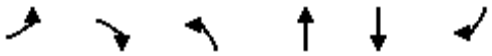
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	344	1520	177	75	1487	82	213	187	79	110	211	581
Future Volume (vph)	344	1520	177	75	1487	82	213	187	79	110	211	581
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9	6.9	3.0	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		0.99	1.00	1.00	0.99	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)	1560	4768	1481	1629	4760		1763	1865	1451	1588	1847	1357
Flt Permitted	0.09	1.00	1.00	0.11	1.00		0.58	1.00	1.00	0.61	1.00	1.00
Satd. Flow (perm)	144	4768	1481	181	4760		1070	1865	1451	1015	1847	1357
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	351	1551	181	77	1517	84	217	191	81	112	215	593
RTOR Reduction (vph)	0	0	100	0	5	0	0	0	51	0	0	177
Lane Group Flow (vph)	351	1551	81	77	1596	0	217	191	30	112	215	416
Confl. Peds. (#/hr)	5		13	13		5	9		13	13		9
Heavy Vehicles (%)	17%	10%	6%	12%	8%	30%	3%	3%	10%	14%	4%	18%
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)	62.6	54.0	54.0	48.2	42.6		46.1	46.1	46.1	46.1	46.1	46.1
Effective Green, g (s)	62.6	54.0	54.0	48.2	42.6		46.1	46.1	46.1	46.1	46.1	46.1
Actuated g/C Ratio	0.51	0.44	0.44	0.39	0.35		0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	3.0	6.9	6.9	3.0	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)	270	2101	652	137	1655		402	701	546	381	695	510
v/s Ratio Prot	c0.18	0.33		0.03	0.34			0.10			0.12	
v/s Ratio Perm	c0.48		0.06	0.19			0.20		0.02	0.11		c0.31
v/c Ratio	1.30	0.74	0.12	0.56	0.96		0.54	0.27	0.06	0.29	0.31	0.82
Uniform Delay, d1	38.1	28.4	20.3	24.7	39.2		29.9	26.5	24.3	26.8	27.0	34.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	159.5	2.4	0.4	5.2	15.1		5.1	1.0	0.2	2.0	1.2	13.4
Delay (s)	197.5	30.8	20.7	29.9	54.3		35.0	27.5	24.5	28.7	28.1	47.8
Level of Service	F	C	C	C	D		D	C	C	C	C	D
Approach Delay (s)		58.0			53.2			30.3			40.9	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	50.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	122.5	Sum of lost time (s)	16.8
Intersection Capacity Utilization	123.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX H:

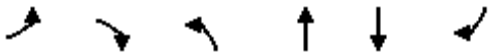
Ultimate 2033 Future Background Traffic Calculations



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	14	14	574	556	3
Future Volume (Veh/h)	2	14	14	574	556	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	2	15	15	598	579	3
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	910	292	583			
vC1, stage 1 conf vol	582					
vC2, stage 2 conf vol	329					
vCu, unblocked vol	910	292	583			
tC, single (s)	8.8	8.8	4.2			
tC, 2 stage (s)	7.8					
tF (s)	4.5	4.2	2.3			
p0 queue free %	99	97	98			
cM capacity (veh/h)	284	494	953			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	17	214	399	386	196
Volume Left	2	15	0	0	0
Volume Right	15	0	0	0	3
cSH	454	953	1700	1700	1700
Volume to Capacity	0.04	0.02	0.23	0.23	0.12
Queue Length 95th (m)	0.9	0.4	0.0	0.0	0.0
Control Delay (s)	13.2	0.8	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	13.2	0.3		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	35.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	9	15	574	556	3
Future Volume (Veh/h)	0	9	15	574	556	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	9	16	598	579	3
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	912	292	583			
vC1, stage 1 conf vol	582					
vC2, stage 2 conf vol	331					
vCu, unblocked vol	912	292	583			
tC, single (s)	6.8	8.2	4.8			
tC, 2 stage (s)	5.8					
tF (s)	3.5	4.0	2.5			
p0 queue free %	100	98	98			
cM capacity (veh/h)	468	543	802			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	9	16	299	299	386	196
Volume Left	0	16	0	0	0	0
Volume Right	9	0	0	0	0	3
cSH	543	802	1700	1700	1700	1700
Volume to Capacity	0.02	0.02	0.18	0.18	0.23	0.12
Queue Length 95th (m)	0.4	0.5	0.0	0.0	0.0	0.0
Control Delay (s)	11.7	9.6	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	11.7	0.2			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	25.9%	ICU Level of Service	A
Analysis Period (min)	15		

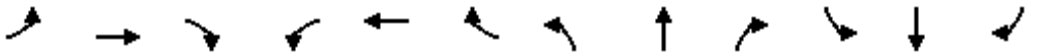
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	486	2060	225	82	948	127	205	68	51	212	273
Future Volume (vph)	486	2060	225	82	948	127	205	68	51	212	273
Lane Group Flow (vph)	506	2146	234	85	1091	132	214	71	53	221	284
Turn Type	pm+pt	NA	Perm	pm+pt	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	12.0	12.0	5.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	48.9	48.9	9.5	48.9	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (s)	28.0	72.4	72.4	10.7	55.1	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (%)	20.7%	53.6%	53.6%	7.9%	40.8%	38.4%	38.4%	38.4%	38.4%	38.4%	38.4%
Yellow Time (s)	3.0	4.6	4.6	3.0	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	3.0	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	Max	Max	None	Max	Max	Max	Max	Max	Max	Max
v/c Ratio	0.81	0.91	0.28	0.64	0.61	0.18	0.21	0.15	0.18	0.22	0.45
Control Delay	28.1	38.9	7.0	46.9	34.0	32.8	32.8	6.0	33.9	33.1	6.0
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	28.1	38.9	7.0	46.9	34.0	32.8	32.8	6.0	33.9	33.1	6.0
Queue Length 50th (m)	33.2	188.9	9.3	9.3	82.2	12.8	21.4	0.0	10.0	22.2	0.0
Queue Length 95th (m)	52.6	212.2	24.6	#32.9	105.4	20.9	31.4	9.1	20.8	32.4	20.1
Internal Link Dist (m)		1729.2			1640.6		318.9			1288.8	
Turn Bay Length (m)	145.0		75.0	65.0		75.0		60.0	30.0		135.0
Base Capacity (vph)	732	2360	829	134	1796	718	1042	476	301	1007	625
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	0.69	0.91	0.28	0.63	0.61	0.18	0.21	0.15	0.18	0.22	0.45

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 134.8
Natural Cycle: 115
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Mayfield Road

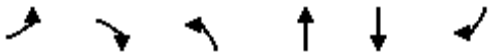




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	486	2060	225	82	948	99	127	205	68	51	212	273
Future Volume (vph)	486	2060	225	82	948	99	127	205	68	51	212	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91		0.97	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	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)	2855	4856	1529	1484	4465		3331	3120	1266	1389	3017	1307
Flt Permitted	0.17	1.00	1.00	0.07	1.00		0.61	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	498	4856	1529	116	4465		2152	3120	1266	904	3017	1307
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	506	2146	234	85	988	103	132	214	71	53	221	284
RTOR Reduction (vph)	0	0	86	0	8	0	0	0	47	0	0	189
Lane Group Flow (vph)	506	2146	148	85	1083	0	132	214	24	53	221	95
Confl. Peds. (#/hr)	1		5	5		1	4		4	4		4
Heavy Vehicles (%)	24%	8%	5%	23%	15%	22%	6%	17%	27%	31%	21%	23%
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)	76.0	65.5	65.5	61.5	54.0		45.0	45.0	45.0	45.0	45.0	45.0
Effective Green, g (s)	76.0	65.5	65.5	61.5	54.0		45.0	45.0	45.0	45.0	45.0	45.0
Actuated g/C Ratio	0.56	0.49	0.49	0.46	0.40		0.33	0.33	0.33	0.33	0.33	0.33
Clearance Time (s)	3.0	6.9	6.9	3.0	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)	612	2359	742	129	1788		718	1041	422	301	1007	436
v/s Ratio Prot	c0.12	c0.44		0.04	0.24			0.07			c0.07	
v/s Ratio Perm	0.35		0.10	0.26			0.06		0.02	0.06		0.07
v/c Ratio	0.83	0.91	0.20	0.66	0.61		0.18	0.21	0.06	0.18	0.22	0.22
Uniform Delay, d1	20.3	31.9	19.7	27.3	32.0		31.9	32.1	30.5	31.8	32.3	32.3
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	9.0	6.6	0.6	11.5	1.5		0.6	0.4	0.3	1.3	0.5	1.1
Delay (s)	29.2	38.5	20.3	38.9	33.5		32.4	32.6	30.7	33.1	32.8	33.4
Level of Service	C	D	C	D	C		C	C	C	C	C	C
Approach Delay (s)		35.4			33.9			32.2			33.1	
Approach LOS		D			C			C			C	

Intersection Summary					
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.65				
Actuated Cycle Length (s)	134.8	Sum of lost time (s)	16.8		
Intersection Capacity Utilization	113.6%	ICU Level of Service	H		
Analysis Period (min)	15				

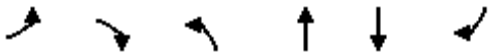
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	24	547	648	8
Future Volume (Veh/h)	0	22	24	547	648	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	24	26	588	697	9
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1048	354	707			
vC1, stage 1 conf vol	702					
vC2, stage 2 conf vol	346					
vCu, unblocked vol	1048	354	707			
tC, single (s)	6.8	6.9	5.3			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.8			
p0 queue free %	100	96	96			
cM capacity (veh/h)	409	648	598			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	24	222	392	465	241
Volume Left	0	26	0	0	0
Volume Right	24	0	0	0	9
cSH	648	598	1700	1700	1700
Volume to Capacity	0.04	0.04	0.23	0.27	0.14
Queue Length 95th (m)	0.9	1.0	0.0	0.0	0.0
Control Delay (s)	10.8	1.8	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	10.8	0.7		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	37	27	547	648	2
Future Volume (Veh/h)	0	37	27	547	648	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	40	29	588	697	2
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1051	350	700			
vC1, stage 1 conf vol	699					
vC2, stage 2 conf vol	352					
vCu, unblocked vol	1051	350	700			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	97			
cM capacity (veh/h)	411	651	905			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	40	29	294	294	465	234
Volume Left	0	29	0	0	0	0
Volume Right	40	0	0	0	0	2
cSH	651	905	1700	1700	1700	1700
Volume to Capacity	0.06	0.03	0.17	0.17	0.27	0.14
Queue Length 95th (m)	1.5	0.8	0.0	0.0	0.0	0.0
Control Delay (s)	10.9	9.1	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	10.9	0.4			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

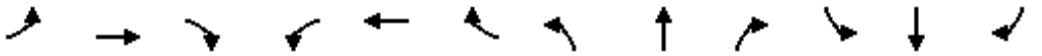
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	344	1520	177	75	1487	213	187	79	110	211	581
Future Volume (vph)	344	1520	177	75	1487	213	187	79	110	211	581
Lane Group Flow (vph)	351	1551	181	77	1601	217	191	81	112	215	593
Turn Type	pm+pt	NA	Perm	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	12.0	12.0	5.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	48.9	48.9	9.5	48.9	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (s)	18.0	64.0	64.0	12.0	58.0	59.0	59.0	59.0	59.0	59.0	59.0
Total Split (%)	13.3%	47.4%	47.4%	8.9%	43.0%	43.7%	43.7%	43.7%	43.7%	43.7%	43.7%
Yellow Time (s)	3.0	4.6	4.6	3.0	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	3.0	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	Max	Max	None	Max	Max	Max	Max	Max	Max	Max
v/c Ratio	0.84	0.74	0.24	0.48	0.88	0.25	0.14	0.13	0.27	0.16	0.91
Control Delay	49.1	34.3	5.7	26.0	45.4	29.0	27.1	5.9	30.6	27.3	43.7
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	49.1	34.3	5.7	26.0	45.4	29.0	27.1	5.9	30.6	27.3	43.7
Queue Length 50th (m)	32.7	126.9	3.2	9.6	144.7	20.1	17.2	0.0	20.4	19.5	105.6
Queue Length 95th (m)	#54.2	146.5	17.3	17.9	165.6	29.9	25.6	10.2	35.7	28.6	#181.4
Internal Link Dist (m)		1729.2			1640.6		318.9			1288.8	
Turn Bay Length (m)	145.0		75.0	65.0		75.0		60.0	30.0		135.0
Base Capacity (vph)	437	2100	751	174	1818	861	1376	612	409	1363	655
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	0.80	0.74	0.24	0.44	0.88	0.25	0.14	0.13	0.27	0.16	0.91

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 134.2
Natural Cycle: 115
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Mayfield Road





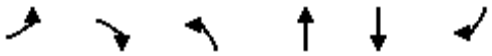
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	344	1520	177	75	1487	82	213	187	79	110	211	581
Future Volume (vph)	344	1520	177	75	1487	82	213	187	79	110	211	581
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91		0.97	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	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		0.99	1.00	1.00	0.99	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)	3026	4768	1503	1629	4763		3417	3544	1450	1587	3510	1356
Flt Permitted	0.07	1.00	1.00	0.09	1.00		0.62	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	233	4768	1503	158	4763		2220	3544	1450	1055	3510	1356
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	351	1551	181	77	1517	84	217	191	81	112	215	593
RTOR Reduction (vph)	0	0	90	0	4	0	0	0	50	0	0	129
Lane Group Flow (vph)	351	1551	91	77	1597	0	217	191	31	112	215	464
Confl. Peds. (#/hr)	5		13	13		5	9		13	13		9
Heavy Vehicles (%)	17%	10%	6%	12%	8%	30%	3%	3%	10%	14%	4%	18%
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)	68.9	59.1	59.1	58.6	51.8		52.1	52.1	52.1	52.1	52.1	52.1
Effective Green, g (s)	68.9	59.1	59.1	58.6	51.8		52.1	52.1	52.1	52.1	52.1	52.1
Actuated g/C Ratio	0.51	0.44	0.44	0.43	0.38		0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)	3.0	6.9	6.9	3.0	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)	411	2090	658	142	1830		858	1369	560	407	1356	524
v/s Ratio Prot	c0.09	0.33		0.03	0.34			0.05			0.06	
v/s Ratio Perm	c0.35		0.06	0.21			0.10		0.02	0.11		c0.34
v/c Ratio	0.85	0.74	0.14	0.54	0.87		0.25	0.14	0.06	0.28	0.16	0.88
Uniform Delay, d1	37.3	31.5	22.6	24.9	38.4		28.1	26.8	25.9	28.4	27.0	38.5
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	15.7	2.4	0.4	4.2	6.1		0.7	0.2	0.2	1.7	0.2	19.2
Delay (s)	53.0	33.9	23.1	29.0	44.5		28.8	27.0	26.1	30.1	27.3	57.8
Level of Service	D	C	C	C	D		C	C	C	C	C	E
Approach Delay (s)		36.2			43.8			27.7			47.3	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	134.8	Sum of lost time (s)	16.8
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX I:

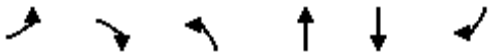
2038 Future Background Traffic Calculations



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	14	14	591	588	3
Future Volume (Veh/h)	2	14	14	591	588	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	2	15	15	616	613	3
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	954	309	617			
vC1, stage 1 conf vol	616					
vC2, stage 2 conf vol	338					
vCu, unblocked vol	954	309	617			
tC, single (s)	8.8	8.8	4.2			
tC, 2 stage (s)	7.8					
tF (s)	4.5	4.2	2.3			
p0 queue free %	99	97	98			
cM capacity (veh/h)	270	478	925			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	17	220	411	409	207
Volume Left	2	15	0	0	0
Volume Right	15	0	0	0	3
cSH	438	925	1700	1700	1700
Volume to Capacity	0.04	0.02	0.24	0.24	0.12
Queue Length 95th (m)	0.9	0.4	0.0	0.0	0.0
Control Delay (s)	13.5	0.8	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	13.5	0.3		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	36.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	9	15	591	588	3
Future Volume (Veh/h)	0	9	15	591	588	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	9	16	616	613	3
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	956	309	617			
vC1, stage 1 conf vol	616					
vC2, stage 2 conf vol	340					
vCu, unblocked vol	956	309	617			
tC, single (s)	6.8	8.2	4.8			
tC, 2 stage (s)	5.8					
tF (s)	3.5	4.0	2.5			
p0 queue free %	100	98	98			
cM capacity (veh/h)	451	527	775			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	9	16	308	308	409	207
Volume Left	0	16	0	0	0	0
Volume Right	9	0	0	0	0	3
cSH	527	775	1700	1700	1700	1700
Volume to Capacity	0.02	0.02	0.18	0.18	0.24	0.12
Queue Length 95th (m)	0.4	0.5	0.0	0.0	0.0	0.0
Control Delay (s)	11.9	9.7	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	11.9	0.2			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	26.3%	ICU Level of Service	A
Analysis Period (min)	15		

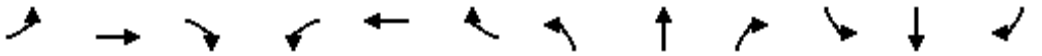
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	486	2267	225	82	1044	127	215	68	51	231	273
Future Volume (vph)	486	2267	225	82	1044	127	215	68	51	231	273
Lane Group Flow (vph)	506	2361	234	85	1191	132	224	71	53	241	284
Turn Type	pm+pt	NA	Perm	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	12.0	12.0	5.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	48.9	48.9	9.5	48.9	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (s)	29.6	73.6	73.6	9.5	53.5	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (%)	21.9%	54.5%	54.5%	7.0%	39.6%	38.4%	38.4%	38.4%	38.4%	38.4%	38.4%
Yellow Time (s)	3.0	4.6	4.6	3.0	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	3.0	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	Max	Max	None	Max	Max	Max	Max	Max	Max	Max
v/c Ratio	0.82	0.98	0.28	0.70	0.69	0.19	0.22	0.15	0.18	0.24	0.45
Control Delay	34.5	48.7	7.7	55.1	37.4	32.9	33.0	6.0	34.0	33.4	6.0
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	34.5	48.7	7.7	55.1	37.4	32.9	33.0	6.0	34.0	33.4	6.0
Queue Length 50th (m)	40.9	221.5	11.0	9.3	95.9	12.8	22.5	0.0	10.0	24.4	0.0
Queue Length 95th (m)	59.7	#262.9	26.5	#36.6	120.1	20.9	32.7	9.1	20.9	35.3	20.1
Internal Link Dist (m)		1729.2			1640.6		318.9			1288.8	
Turn Bay Length (m)	145.0		75.0	65.0		75.0		60.0	30.0		135.0
Base Capacity (vph)	721	2399	833	121	1738	703	1040	475	298	1005	625
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	0.70	0.98	0.28	0.70	0.69	0.19	0.22	0.15	0.18	0.24	0.45

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Natural Cycle: 125
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Mayfield Road

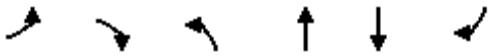




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	486	2267	225	82	1044	99	127	215	68	51	231	273
Future Volume (vph)	486	2267	225	82	1044	99	127	215	68	51	231	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91		0.97	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	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)	2855	4856	1529	1484	4473		3332	3120	1266	1389	3017	1307
Flt Permitted	0.13	1.00	1.00	0.08	1.00		0.60	1.00	1.00	0.61	1.00	1.00
Satd. Flow (perm)	399	4856	1529	120	4473		2111	3120	1266	895	3017	1307
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	506	2361	234	85	1088	103	132	224	71	53	241	284
RTOR Reduction (vph)	0	0	78	0	8	0	0	0	47	0	0	189
Lane Group Flow (vph)	506	2361	156	85	1183	0	132	224	24	53	241	95
Confl. Peds. (#/hr)	1		5	5		1	4		4	4		4
Heavy Vehicles (%)	24%	8%	5%	23%	15%	22%	6%	17%	27%	31%	21%	23%
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)	76.2	66.7	66.7	58.7	52.2		45.0	45.0	45.0	45.0	45.0	45.0
Effective Green, g (s)	76.2	66.7	66.7	58.7	52.2		45.0	45.0	45.0	45.0	45.0	45.0
Actuated g/C Ratio	0.56	0.49	0.49	0.43	0.39		0.33	0.33	0.33	0.33	0.33	0.33
Clearance Time (s)	3.0	6.9	6.9	3.0	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)	607	2399	755	117	1729		703	1040	422	298	1005	435
v/s Ratio Prot	c0.13	c0.49		0.03	0.26			0.07			c0.08	
v/s Ratio Perm	0.34		0.10	0.28			0.06		0.02	0.06		0.07
v/c Ratio	0.83	0.98	0.21	0.73	0.68		0.19	0.22	0.06	0.18	0.24	0.22
Uniform Delay, d1	27.9	33.6	19.2	30.4	34.5		32.0	32.3	30.6	31.9	32.6	32.3
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	9.6	15.0	0.6	20.0	2.2		0.6	0.5	0.3	1.3	0.6	1.1
Delay (s)	37.5	48.6	19.9	50.4	36.7		32.6	32.8	30.8	33.2	33.2	33.5
Level of Service	D	D	B	D	D		C	C	C	C	C	C
Approach Delay (s)		44.6			37.7			32.4			33.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	113.6%	ICU Level of Service	H
Analysis Period (min)	15		

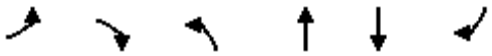
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	22	24	579	673	8
Future Volume (Veh/h)	0	22	24	579	673	8
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	24	26	623	724	9
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1093	368	734			
vC1, stage 1 conf vol	730					
vC2, stage 2 conf vol	364					
vCu, unblocked vol	1093	368	734			
tC, single (s)	6.8	6.9	5.3			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.8			
p0 queue free %	100	96	96			
cM capacity (veh/h)	395	635	580			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	24	234	415	483	250
Volume Left	0	26	0	0	0
Volume Right	24	0	0	0	9
cSH	635	580	1700	1700	1700
Volume to Capacity	0.04	0.04	0.24	0.28	0.15
Queue Length 95th (m)	0.9	1.1	0.0	0.0	0.0
Control Delay (s)	10.9	1.8	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	10.9	0.6		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	37	27	579	673	2
Future Volume (Veh/h)	0	37	27	579	673	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	40	29	623	724	2
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1096	364	727			
vC1, stage 1 conf vol	726					
vC2, stage 2 conf vol	370					
vCu, unblocked vol	1096	364	727			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	97			
cM capacity (veh/h)	397	638	885			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	40	29	312	312	483	243
Volume Left	0	29	0	0	0	0
Volume Right	40	0	0	0	0	2
cSH	638	885	1700	1700	1700	1700
Volume to Capacity	0.06	0.03	0.18	0.18	0.28	0.14
Queue Length 95th (m)	1.5	0.8	0.0	0.0	0.0	0.0
Control Delay (s)	11.0	9.2	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	11.0	0.4			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

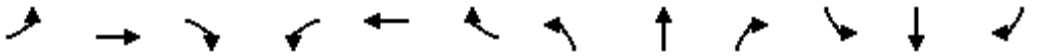
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	344	1675	177	75	1634	213	204	79	110	224	581
Future Volume (vph)	344	1675	177	75	1634	213	204	79	110	224	581
Lane Group Flow (vph)	351	1709	181	77	1751	217	208	81	112	229	593
Turn Type	pm+pt	NA	Perm	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	12.0	12.0	5.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	48.9	48.9	9.5	48.9	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (s)	18.0	64.0	64.0	12.0	58.0	59.0	59.0	59.0	59.0	59.0	59.0
Total Split (%)	13.3%	47.4%	47.4%	8.9%	43.0%	43.7%	43.7%	43.7%	43.7%	43.7%	43.7%
Yellow Time (s)	3.0	4.6	4.6	3.0	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	3.0	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	Max	Max	None	Max	Max	Max	Max	Max	Max	Max
v/c Ratio	0.84	0.81	0.24	0.51	0.96	0.26	0.15	0.13	0.28	0.17	0.91
Control Delay	49.1	37.2	7.0	30.8	54.3	29.1	27.2	5.9	30.8	27.4	44.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.1	37.2	7.0	30.8	54.3	29.1	27.2	5.9	30.8	27.4	44.1
Queue Length 50th (m)	32.7	147.1	5.6	9.6	166.0	20.1	18.8	0.0	20.4	20.9	106.2
Queue Length 95th (m)	#54.2	168.6	20.1	21.2	#200.5	30.0	27.8	10.2	35.8	30.3	#182.1
Internal Link Dist (m)		1729.2			1640.6		318.9			1288.8	
Turn Bay Length (m)	145.0		75.0	65.0		75.0		60.0	30.0		135.0
Base Capacity (vph)	437	2100	743	163	1821	850	1376	612	402	1363	654
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	0.80	0.81	0.24	0.47	0.96	0.26	0.15	0.13	0.28	0.17	0.91

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 134.2
Natural Cycle: 115
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	344	1675	177	75	1634	82	213	204	79	110	224	581
Future Volume (vph)	344	1675	177	75	1634	82	213	204	79	110	224	581
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91		0.97	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	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		0.99	1.00	1.00	0.99	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)	3026	4768	1503	1629	4771		3417	3544	1450	1587	3510	1356
Flt Permitted	0.07	1.00	1.00	0.08	1.00		0.61	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	233	4768	1503	132	4771		2191	3544	1450	1038	3510	1356
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	351	1709	181	77	1667	84	217	208	81	112	229	593
RTOR Reduction (vph)	0	0	81	0	4	0	0	0	50	0	0	128
Lane Group Flow (vph)	351	1709	100	77	1747	0	217	208	31	112	229	465
Confl. Peds. (#/hr)	5		13	13		5	9		13	13		9
Heavy Vehicles (%)	17%	10%	6%	12%	8%	30%	3%	3%	10%	14%	4%	18%
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)	68.9	59.1	59.1	58.6	51.8		52.1	52.1	52.1	52.1	52.1	52.1
Effective Green, g (s)	68.9	59.1	59.1	58.6	51.8		52.1	52.1	52.1	52.1	52.1	52.1
Actuated g/C Ratio	0.51	0.44	0.44	0.43	0.38		0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)	3.0	6.9	6.9	3.0	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)	411	2090	658	132	1833		846	1369	560	401	1356	524
v/s Ratio Prot	c0.09	0.36		0.03	c0.37			0.06			0.07	
v/s Ratio Perm	0.35		0.07	0.22			0.10		0.02	0.11		c0.34
v/c Ratio	0.85	0.82	0.15	0.58	0.95		0.26	0.15	0.06	0.28	0.17	0.89
Uniform Delay, d1	38.0	33.1	22.8	26.2	40.3		28.2	27.0	25.9	28.4	27.1	38.6
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	15.7	3.7	0.5	6.4	12.5		0.7	0.2	0.2	1.7	0.3	19.5
Delay (s)	53.8	36.8	23.3	32.6	52.9		28.9	27.2	26.1	30.2	27.4	58.1
Level of Service	D	D	C	C	D		C	C	C	C	C	E
Approach Delay (s)		38.4			52.0			27.7			47.2	
Approach LOS		D			D			C			D	

Intersection Summary					
HCM 2000 Control Delay	43.4	HCM 2000 Level of Service		D	
HCM 2000 Volume to Capacity ratio	0.91				
Actuated Cycle Length (s)	134.8	Sum of lost time (s)		16.8	
Intersection Capacity Utilization	109.6%	ICU Level of Service		H	
Analysis Period (min)	15				

c Critical Lane Group

APPENDIX J:

ITE Trip Generation Manual Excerpts

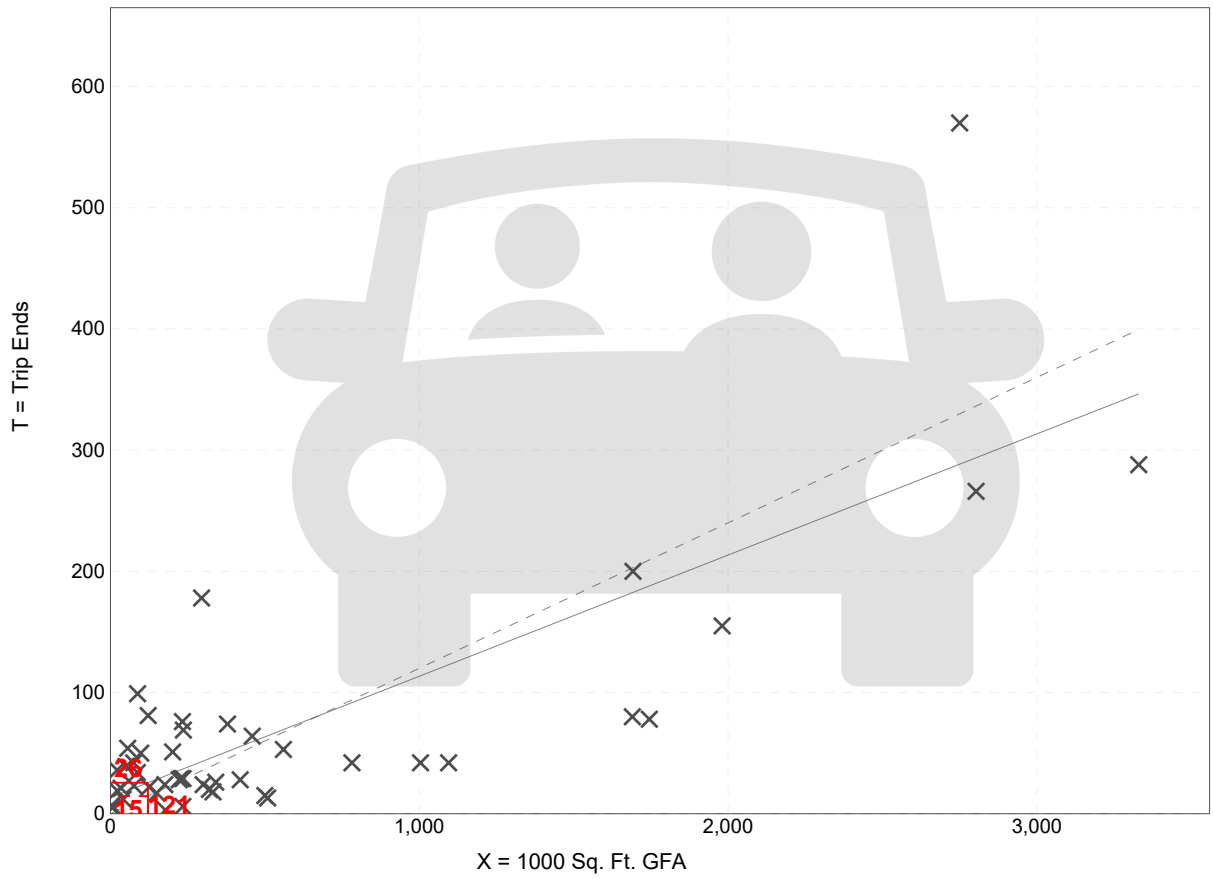
Warehouse
(150)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 47
Avg. 1000 Sq. Ft. GFA: 559
Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.12	0.02 - 1.80	0.14

Data Plot and Equation



Fitted Curve Equation: T = 0.10(X) + 13.43

R^2= 0.62

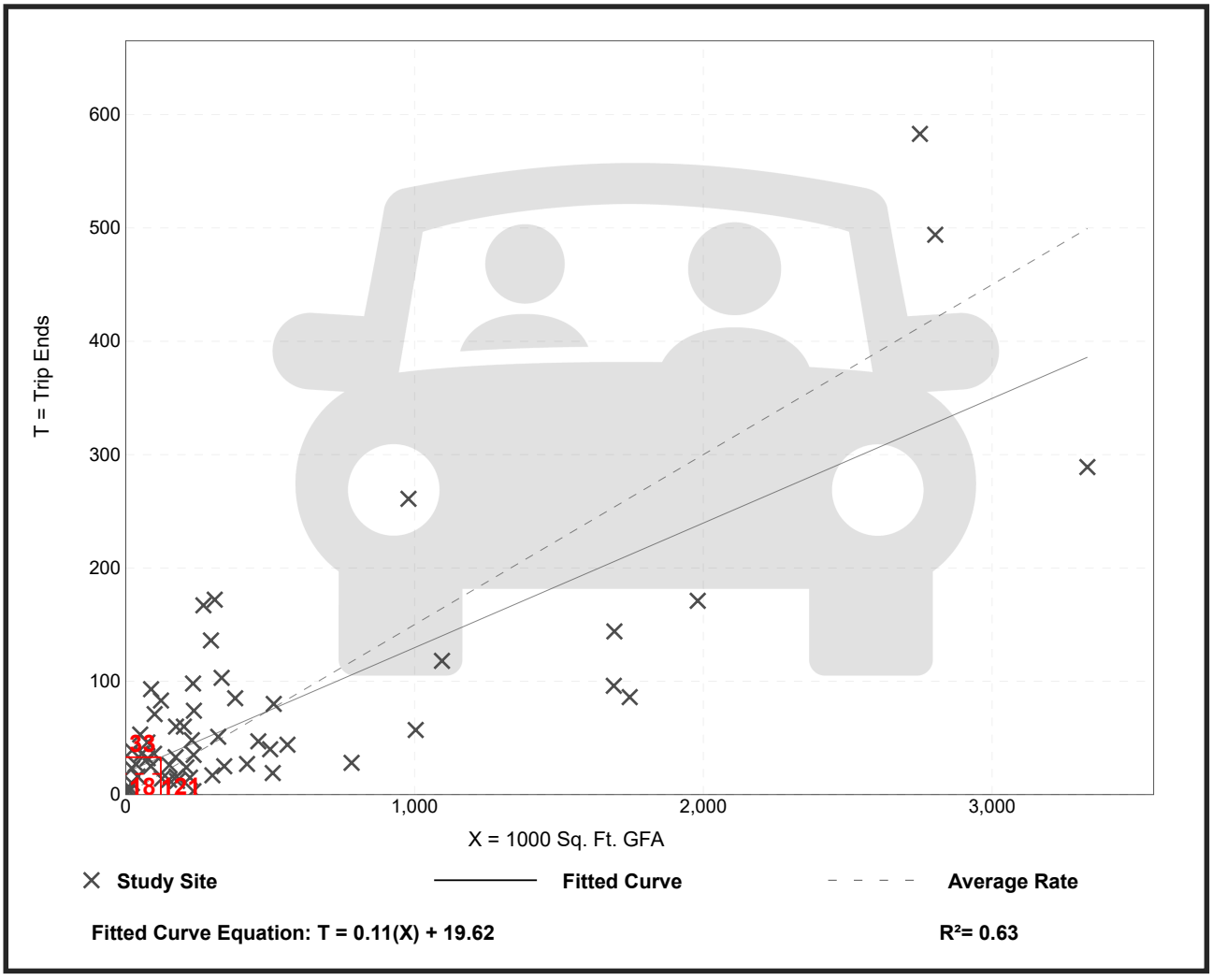
Warehouse
(150)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	58
Avg. 1000 Sq. Ft. GFA:	503
Directional Distribution:	28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.15	0.01 - 1.80	0.15

Data Plot and Equation



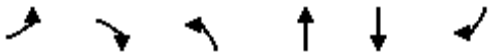
Fitted Curve Equation: T = 0.11(X) + 19.62

R^2= 0.63

Trip Gen Manual, 12th Edition ● Institute of Transportation Engineers

APPENDIX K:

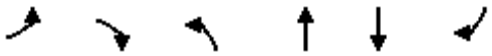
Ultimate 2038 Future Total Traffic Calculations



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	3	24	35	591	588	7
Future Volume (Veh/h)	3	24	35	591	588	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	3	25	36	616	613	7
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	998	311	621			
vC1, stage 1 conf vol	618					
vC2, stage 2 conf vol	380					
vCu, unblocked vol	998	311	621			
tC, single (s)	8.8	8.8	4.2			
tC, 2 stage (s)	7.8					
tF (s)	4.5	4.2	2.3			
p0 queue free %	99	95	96			
cM capacity (veh/h)	261	476	921			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	28	241	411	409	211
Volume Left	3	36	0	0	0
Volume Right	25	0	0	0	7
cSH	438	921	1700	1700	1700
Volume to Capacity	0.06	0.04	0.24	0.24	0.12
Queue Length 95th (m)	1.6	0.9	0.0	0.0	0.0
Control Delay (s)	13.8	1.7	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	13.8	0.6		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	9	15	612	598	3
Future Volume (Veh/h)	0	9	15	612	598	3
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	9	16	638	623	3
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	976	314	627			
vC1, stage 1 conf vol	626					
vC2, stage 2 conf vol	351					
vCu, unblocked vol	976	314	627			
tC, single (s)	6.8	8.2	4.8			
tC, 2 stage (s)	5.8					
tF (s)	3.5	4.0	2.5			
p0 queue free %	100	98	98			
cM capacity (veh/h)	444	522	767			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	9	16	319	319	415	211
Volume Left	0	16	0	0	0	0
Volume Right	9	0	0	0	0	3
cSH	522	767	1700	1700	1700	1700
Volume to Capacity	0.02	0.02	0.19	0.19	0.24	0.12
Queue Length 95th (m)	0.4	0.5	0.0	0.0	0.0	0.0
Control Delay (s)	12.0	9.8	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	12.0	0.2			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		

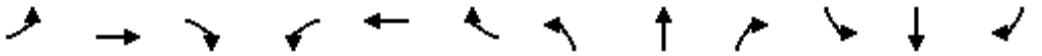
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	499	2267	225	82	1044	127	220	68	52	235	277
Future Volume (vph)	499	2267	225	82	1044	127	220	68	52	235	277
Lane Group Flow (vph)	520	2361	234	85	1192	132	229	71	54	245	289
Turn Type	pm+pt	NA	Perm	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	12.0	12.0	5.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	48.9	48.9	9.5	48.9	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (s)	29.6	73.6	73.6	9.5	53.5	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (%)	21.9%	54.5%	54.5%	7.0%	39.6%	38.4%	38.4%	38.4%	38.4%	38.4%	38.4%
Yellow Time (s)	3.0	4.6	4.6	3.0	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	3.0	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	Max	Max	None	Max	Max	Max	Max	Max	Max	Max
v/c Ratio	0.83	0.98	0.28	0.70	0.69	0.19	0.22	0.15	0.18	0.24	0.46
Control Delay	36.2	48.7	7.7	55.5	37.9	32.9	33.1	6.0	34.1	33.5	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	48.7	7.7	55.5	37.9	32.9	33.1	6.0	34.1	33.5	6.1
Queue Length 50th (m)	43.5	221.5	11.0	9.3	97.1	12.8	23.0	0.0	10.2	24.8	0.0
Queue Length 95th (m)	62.8	#262.9	26.5	#36.6	120.3	21.0	33.5	9.1	20.9	35.7	20.4
Internal Link Dist (m)		1729.2			1640.6		318.9			1288.8	
Turn Bay Length (m)	145.0		75.0	65.0		75.0		60.0	30.0		135.0
Base Capacity (vph)	718	2399	833	121	1719	700	1040	475	297	1005	628
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	0.72	0.98	0.28	0.70	0.69	0.19	0.22	0.15	0.18	0.24	0.46

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 135
Natural Cycle: 125
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Mayfield Road

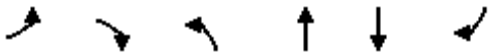




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	499	2267	225	82	1044	100	127	220	68	52	235	277
Future Volume (vph)	499	2267	225	82	1044	100	127	220	68	52	235	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91		0.97	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	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)	2855	4856	1529	1484	4472		3332	3120	1266	1390	3017	1307
Flt Permitted	0.13	1.00	1.00	0.08	1.00		0.60	1.00	1.00	0.61	1.00	1.00
Satd. Flow (perm)	394	4856	1529	121	4472		2101	3120	1266	891	3017	1307
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	520	2361	234	85	1088	104	132	229	71	54	245	289
RTOR Reduction (vph)	0	0	78	0	8	0	0	0	47	0	0	193
Lane Group Flow (vph)	520	2361	156	85	1184	0	132	229	24	54	245	96
Confl. Peds. (#/hr)	1		5	5		1	4		4	4		4
Heavy Vehicles (%)	24%	8%	5%	23%	15%	22%	6%	17%	27%	31%	21%	23%
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)	76.2	66.7	66.7	58.2	51.7		45.0	45.0	45.0	45.0	45.0	45.0
Effective Green, g (s)	76.2	66.7	66.7	58.2	51.7		45.0	45.0	45.0	45.0	45.0	45.0
Actuated g/C Ratio	0.56	0.49	0.49	0.43	0.38		0.33	0.33	0.33	0.33	0.33	0.33
Clearance Time (s)	3.0	6.9	6.9	3.0	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)	614	2399	755	117	1712		700	1040	422	297	1005	435
v/s Ratio Prot	c0.13	c0.49		0.03	0.26			0.07			c0.08	
v/s Ratio Perm	0.34		0.10	0.28			0.06		0.02	0.06		0.07
v/c Ratio	0.85	0.98	0.21	0.73	0.69		0.19	0.22	0.06	0.18	0.24	0.22
Uniform Delay, d1	29.1	33.6	19.2	30.5	35.0		32.0	32.4	30.6	31.9	32.7	32.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.5	15.0	0.6	20.0	2.3		0.6	0.5	0.3	1.3	0.6	1.2
Delay (s)	39.5	48.6	19.9	50.5	37.3		32.6	32.9	30.8	33.3	33.2	33.6
Level of Service	D	D	B	D	D		C	C	C	C	C	C
Approach Delay (s)		45.0			38.2			32.5			33.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	114.0%	ICU Level of Service	H
Analysis Period (min)	15		

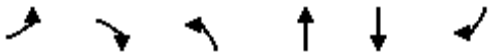
c Critical Lane Group



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	53	38	579	673	13
Future Volume (Veh/h)	0	53	38	579	673	13
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	57	41	623	724	14
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1126	370	739			
vC1, stage 1 conf vol	732					
vC2, stage 2 conf vol	394					
vCu, unblocked vol	1126	370	739			
tC, single (s)	6.8	6.9	5.3			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.8			
p0 queue free %	100	91	93			
cM capacity (veh/h)	385	632	577			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	57	249	415	483	255
Volume Left	0	41	0	0	0
Volume Right	57	0	0	0	14
cSH	632	577	1700	1700	1700
Volume to Capacity	0.09	0.07	0.24	0.28	0.15
Queue Length 95th (m)	2.2	1.7	0.0	0.0	0.0
Control Delay (s)	11.3	2.7	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	11.3	1.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	37	27	593	704	2
Future Volume (Veh/h)	0	37	27	593	704	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	0	40	29	638	757	2
Pedestrians	1					
Lane Width (m)	3.7					
Walking Speed (m/s)	1.1					
Percent Blockage	0					
Right turn flare (veh)						
Median type				TWLTL	TWLTL	
Median storage veh)				2	2	
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1136	380	760			
vC1, stage 1 conf vol	759					
vC2, stage 2 conf vol	377					
vCu, unblocked vol	1136	380	760			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	94	97			
cM capacity (veh/h)	383	623	860			

Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	40	29	319	319	505	254
Volume Left	0	29	0	0	0	0
Volume Right	40	0	0	0	0	2
cSH	623	860	1700	1700	1700	1700
Volume to Capacity	0.06	0.03	0.19	0.19	0.30	0.15
Queue Length 95th (m)	1.6	0.8	0.0	0.0	0.0	0.0
Control Delay (s)	11.2	9.3	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	11.2	0.4			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

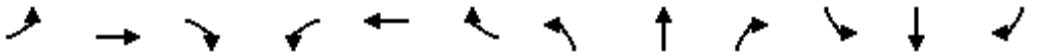
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	351	1675	177	75	1634	213	208	79	114	232	599
Future Volume (vph)	351	1675	177	75	1634	213	208	79	114	232	599
Lane Group Flow (vph)	358	1709	181	77	1752	217	212	81	116	237	611
Turn Type	pm+pt	NA	Perm	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	12.0	12.0	5.0	12.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	9.5	48.9	48.9	9.5	48.9	51.9	51.9	51.9	51.9	51.9	51.9
Total Split (s)	18.0	64.0	64.0	12.0	58.0	59.0	59.0	59.0	59.0	59.0	59.0
Total Split (%)	13.3%	47.4%	47.4%	8.9%	43.0%	43.7%	43.7%	43.7%	43.7%	43.7%	43.7%
Yellow Time (s)	3.0	4.6	4.6	3.0	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	3.0	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	Max	Max	None	Max	Max	Max	Max	Max	Max	Max
v/c Ratio	0.85	0.81	0.24	0.51	0.96	0.26	0.15	0.13	0.29	0.17	0.94
Control Delay	50.1	37.2	7.0	30.8	54.7	29.2	27.3	5.9	31.1	27.6	48.8
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	50.1	37.2	7.0	30.8	54.7	29.2	27.3	5.9	31.1	27.6	48.8
Queue Length 50th (m)	33.7	147.1	5.6	9.6	166.1	20.1	19.2	0.0	21.2	21.7	114.0
Queue Length 95th (m)	#56.3	168.6	20.1	21.2	#200.8	30.0	28.2	10.2	36.8	31.2	#192.8
Internal Link Dist (m)		1729.2			1640.6		318.9			1288.8	
Turn Bay Length (m)	145.0		75.0	65.0		75.0		60.0	30.0		135.0
Base Capacity (vph)	437	2103	744	163	1819	842	1374	612	401	1361	653
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	0.82	0.81	0.24	0.47	0.96	0.26	0.15	0.13	0.29	0.17	0.94

Intersection Summary

Cycle Length: 135
Actuated Cycle Length: 134.3
Natural Cycle: 115
Control Type: Semi Act-Uncoord
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 3: Dixie Road & Mayfield Road





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	351	1675	177	75	1634	83	213	208	79	114	232	599
Future Volume (vph)	351	1675	177	75	1634	83	213	208	79	114	232	599
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.9	6.9	3.0	6.9		6.9	6.9	6.9	6.9	6.9	6.9
Lane Util. Factor	0.97	0.91	1.00	1.00	0.91		0.97	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	0.98	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		0.99	1.00	1.00	0.99	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)	3026	4768	1503	1629	4770		3417	3544	1450	1587	3510	1356
Flt Permitted	0.07	1.00	1.00	0.08	1.00		0.60	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	233	4768	1503	132	4770		2174	3544	1450	1034	3510	1356
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	358	1709	181	77	1667	85	217	212	81	116	237	611
RTOR Reduction (vph)	0	0	81	0	4	0	0	0	50	0	0	128
Lane Group Flow (vph)	358	1709	100	77	1748	0	217	212	31	116	237	483
Confl. Peds. (#/hr)	5		13	13		5	9		13	13		9
Heavy Vehicles (%)	17%	10%	6%	12%	8%	30%	3%	3%	10%	14%	4%	18%
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)	69.1	59.3	59.3	58.6	51.8		52.1	52.1	52.1	52.1	52.1	52.1
Effective Green, g (s)	69.1	59.3	59.3	58.6	51.8		52.1	52.1	52.1	52.1	52.1	52.1
Actuated g/C Ratio	0.51	0.44	0.44	0.43	0.38		0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)	3.0	6.9	6.9	3.0	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)	415	2094	660	132	1830		839	1367	559	399	1354	523
v/s Ratio Prot	c0.09	0.36		0.03	c0.37			0.06			0.07	
v/s Ratio Perm	0.35		0.07	0.22			0.10		0.02	0.11		c0.36
v/c Ratio	0.86	0.82	0.15	0.58	0.96		0.26	0.16	0.06	0.29	0.18	0.92
Uniform Delay, d1	38.5	33.1	22.7	26.2	40.5		28.3	27.1	26.0	28.7	27.3	39.5
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	16.7	3.7	0.5	6.4	12.8		0.7	0.2	0.2	1.8	0.3	24.2
Delay (s)	55.2	36.7	23.2	32.6	53.3		29.0	27.3	26.2	30.5	27.6	63.8
Level of Service	E	D	C	C	D		C	C	C	C	C	E
Approach Delay (s)		38.6			52.4			27.9			50.9	
Approach LOS		D			D			C			D	

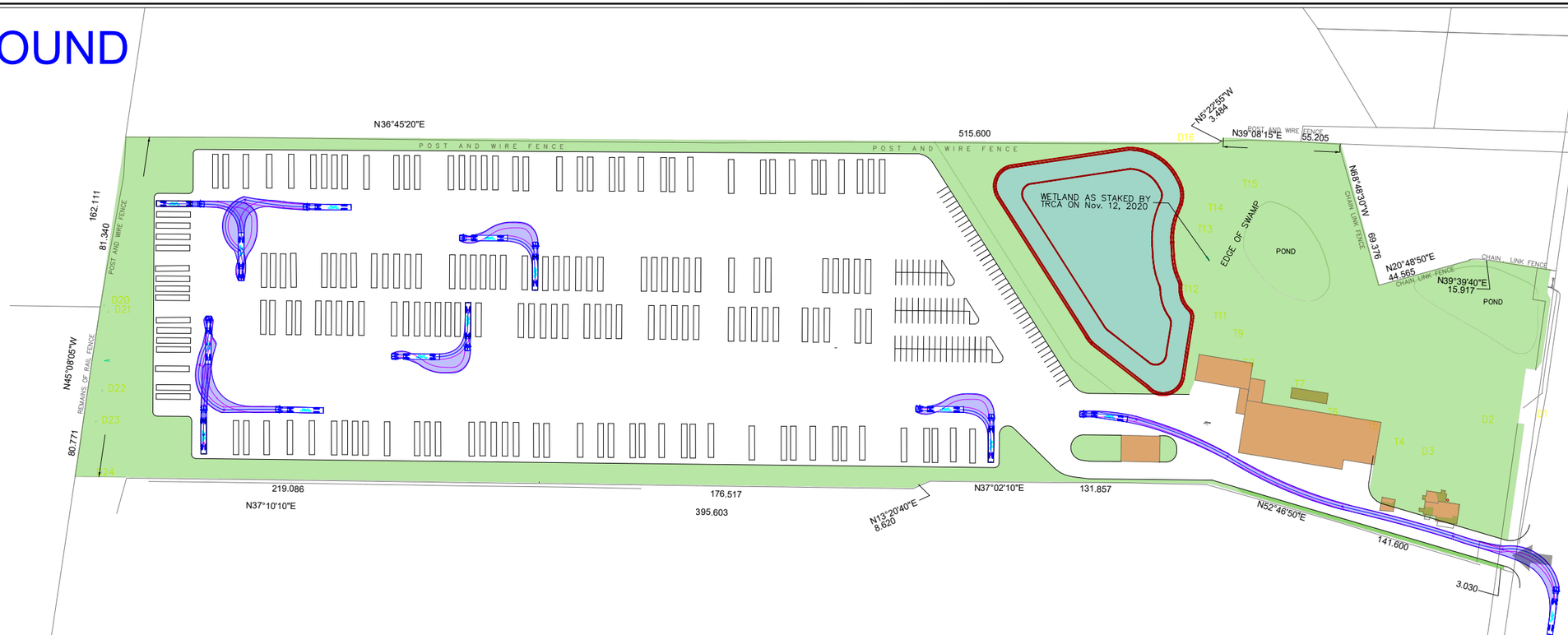
Intersection Summary			
HCM 2000 Control Delay	44.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	16.8
Intersection Capacity Utilization	109.8%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

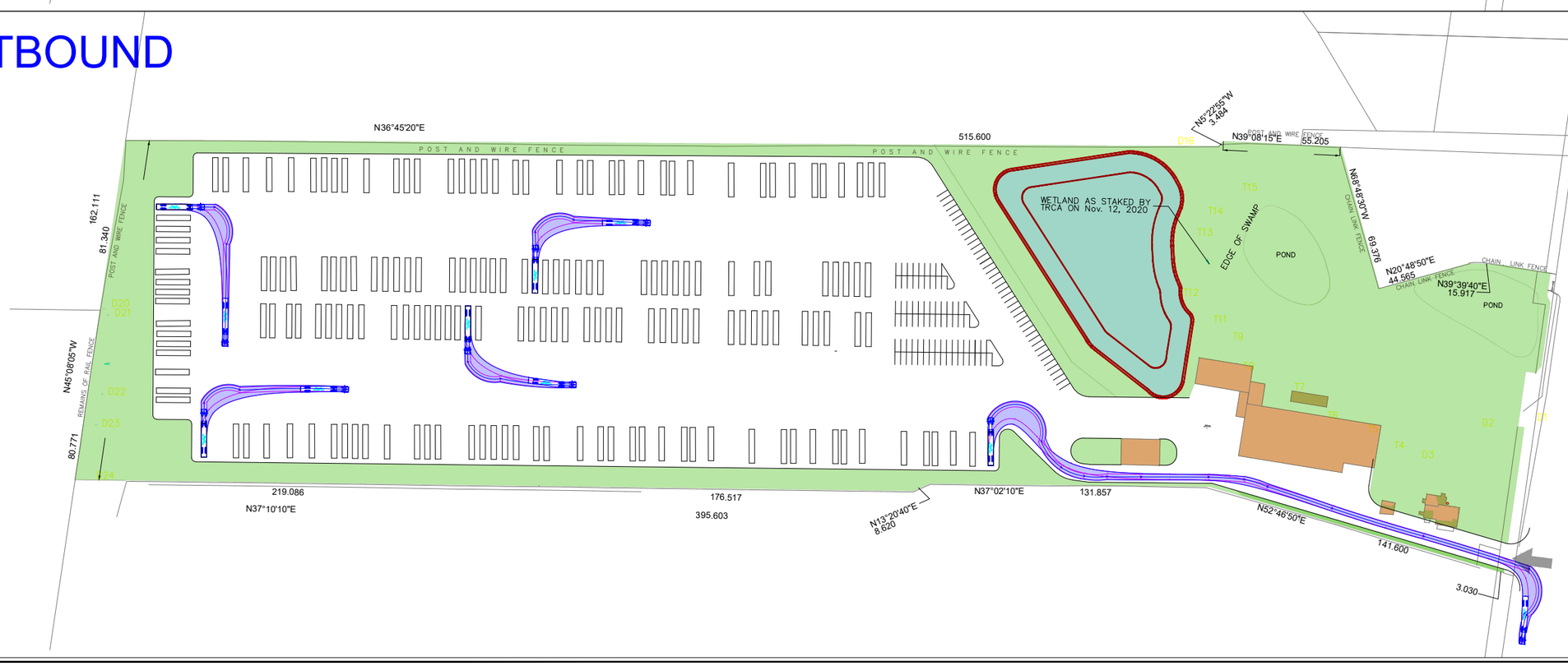
APPENDIX L:

Vehicle Maneuverability Assessments

INBOUND



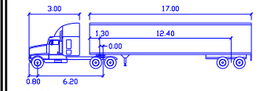
OUTBOUND



KEY PLAN



DESIGN VEHICLE



WB-20

meters			
Tractor Width	2.60	Lock to Lock Time	6.0
Trailer Width	2.60	Steering Angle	28.2
Tractor Track	2.60	Articulating Angle	70.0
Trailer Track	2.60		

SCALE: NTS

REVISONS

NO	REVISION	DATE	BY

STAMP

nextrans
CONSULTING ENGINEERS
Suite 201, 520 Industrial Parkway South
Aurora ON L4G 6W8
Tel: 905-503-2563
Web: www.nextrans.ca

PROJECT NAME:

Truck & Trailer Parking Facility

12434 Dixie Road

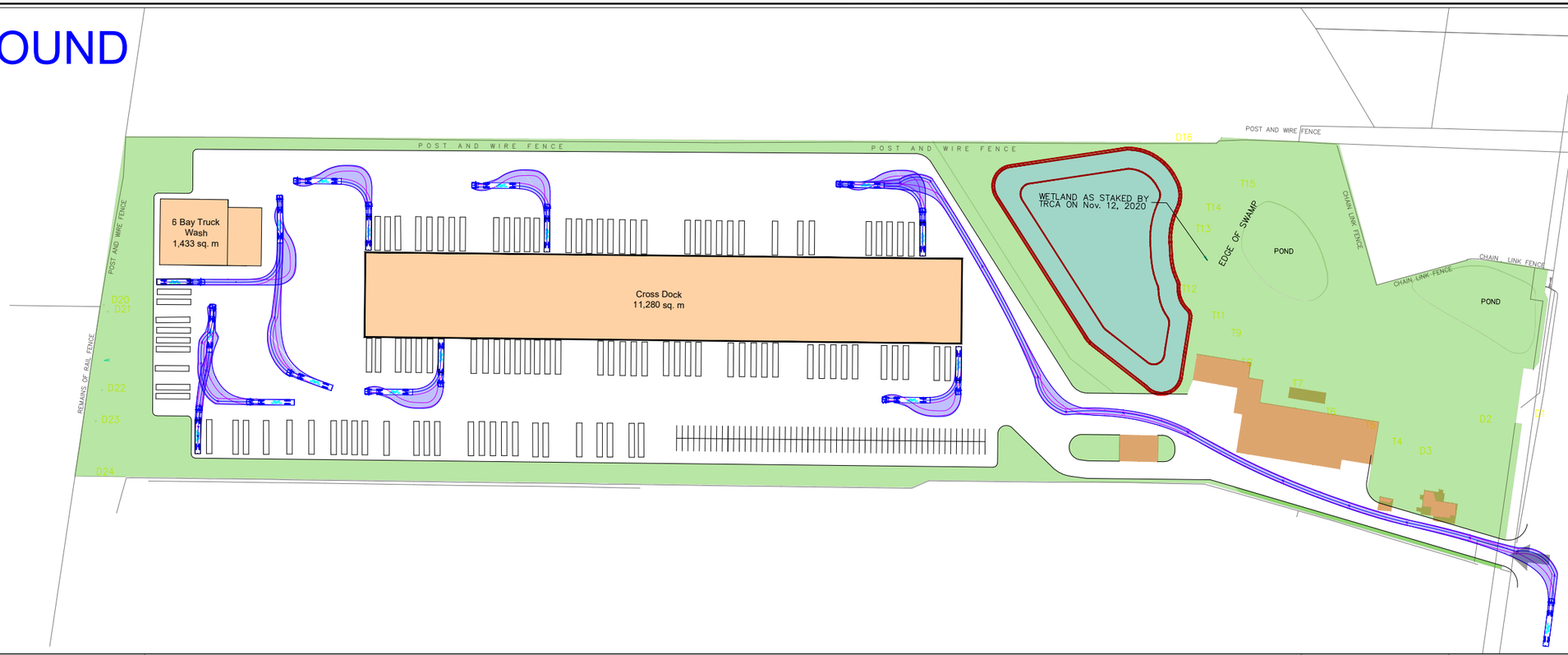
Town of Caledon

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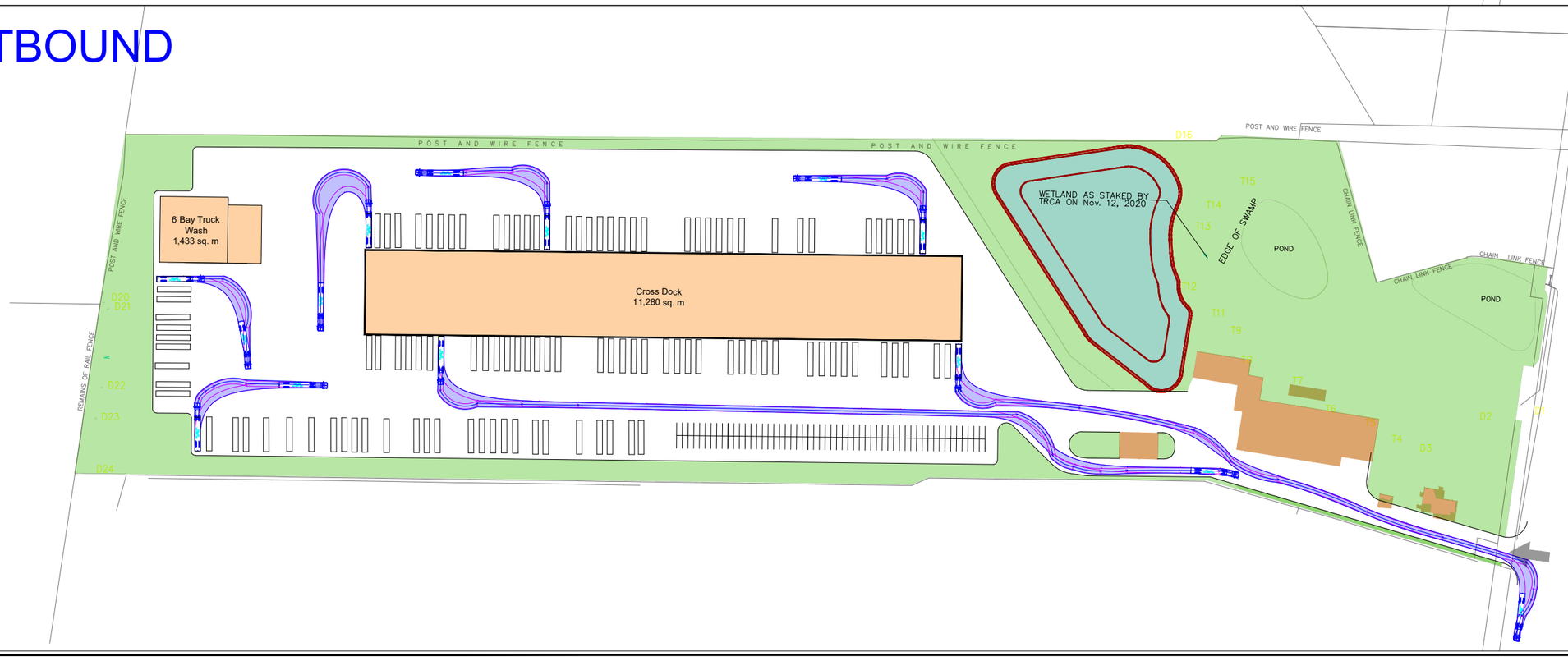
AutoTURN Analysis
WB-20 TAC-2017
(Interim Condition)

DESIGN BY: J.P.	DATE: August 7, 2026
CHECKED BY: K.A.	PROJECT NO. NT-20-105
DRAWN BY: J.P.	
SCALE: NTS	DRAWING NO. Figure 1

INBOUND



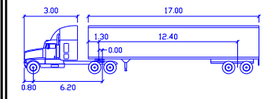
OUTBOUND



KEY PLAN



DESIGN VEHICLE



WB-20

meters

Tractor Width	2.60	Lock to Lock Time	6.0
Trailer Width	2.60	Steering Angle	28.2
Tractor Track	2.60	Articulating Angle	70.0
Trailer Track	2.60		

SCALE: NTS

REVISONS

NO	REVISION	DATE	BY

STAMP

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CONSULTING ENGINEERS
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Aurora ON L4G 6W8
Tel: 905-503-2563
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PROJECT NAME:

Truck & Trailer Parking Facility

12434 Dixie Road

Town of Caledon

DRAWING TITLE:

AutoTURN Analysis
WB-20 TAC-2017
(Ultimate Condition)

DESIGN BY: J.P.	DATE: August 7, 2026
CHECKED BY: K.A.	PROJECT NO. NT-20-105
DRAWN BY: J.P.	
SCALE: NTS	DRAWING NO. Figure 2